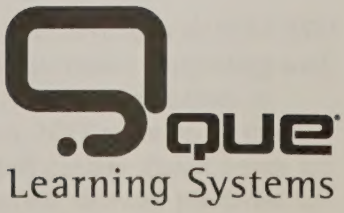
EXCEL 2000
level one

STUDENT WORKBOOK

que
Learning Systems

Excel 2000 Level 1

Student Workbook



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Que Learning Systems (QueLS) is a fully integrated information technology training solution for corporations, commercial training centers, and continuing education programs. QueLS draws on the same authoritative IT content found in Pearson Technology Group (PTG) products from such well-known imprints as Que, Sams, and New Riders. PTG's content has been used to teach millions of people how to harness the power of information technology to become more productive with software applications, programming languages, Web design and development, and networking and communication technologies. QueLS delivers this content through state-of-the-art delivery platforms that include traditional Student Workbooks and Instructor Guides, innovative computer-based training tools, and modules for Web-based learning.

QueLS courseware covers beginning, intermediate, and advanced levels of Microsoft Office 2000; Windows 95, 98, and 2000; Lotus Notes R5; Outlook 98 and 2000; FrontPage 2000; A+; and the primary MCSE 2000 certification exams, along with other major technologies.

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Contents at a Glance

Contents

Introduction

Welcome to the Excel 2000 Level 1 course. In this Introduction, you will find the following information:

- How to use this book
- What to expect from this course and how it maps to certification requirements
- How to set up this course on your own
- A tool for assessing your skills coming into the course

Using This Book

The foundation for our courses is the two-column activity table:

- In the left column (Do This), numbered steps direct you to press certain keys, type certain characters, choose certain menu commands, or observe certain items on the screen to stimulate discussion.
- In the right column (Consider the Following), graphics and supporting text provide context for what the left column instructs you to do.

Activity A-1: Working with Names

Do This	Consider the Following
1 Point before the *d* in *documentation.*	You are going to change this word to *presentation.*

Formatting Conventions

For convenience and clarity, we have tried to keep our formatting conventions simple. We have used a minimum of fonts and a few icons to point out special features. The following table shows our conventions and icons and their meanings.

Convention	Sample	Meaning
Key caps	Ctrl	Indicate a particular key on your keyboard that you need to press
Bold items	Select **centered**; Choose **File**, **Save**.	Point out specific items on the screen that you click on, choose, select, or type
Italic items	*Office Assistant* is an animated cartoon character that provides you with help on any topic.	Highlight words that are defined in the Glossary
Buttons	Click  .	Represent toolbar buttons on the screen that you can click to activate a certain action

Workbook Components

The *Student Workbook* includes the following components:

Introduction

The Introduction should give you the information that you need to get started. It also includes a pre-assessment inventory and information about how to re-key the course on your own.

Modules

The modules are the highest-level divisions of the content of the course. Each module begins with overall objectives for what will be learned after

completion of the module. The topics alternate explanatory text, procedures, graphics, tables, and lists with the activities through which you will work.

Each module ends with a summary of the material you have just learned. Finally, each module contains an exercise that you can perform either in class or on your own to reinforce skills and transfer concepts.

Course Wrap-Up

The Course Wrap-Up summarizes the course, indicates other courses in the series, and lists additional resources that you can refer to after class.

Reference

The Reference section consists of a Task Reference, a Glossary, and an Index. The Task Reference provides at-a-glance instructions for performing the tasks taught in the activity tables. The Glossary is a compiled list of the key terms defined throughout the course. The Index is a guide for finding the information you are looking for quickly and easily.

Course Overview

Is This Course for You?

This course is for you if you want to use Microsoft Excel 2000 to record, manage, and analyze data.

To get the most out of this course, you should have little or no experience with Excel 2000, but you should understand the basics of getting around in Windows. You should be able to start a program, choose commands, click buttons, and select items.

Course Prerequisites

Before taking this course, you should have taken an introductory course on an operating system or have equivalent knowledge. You should be comfortable using a keyboard and a mouse, and should be familiar with basic Graphical User Interface (GUI) concepts such as pointing, clicking, double-clicking, dragging, and selecting menu items.

Course Objectives

At the end of this course, you will know how to

- Start Excel 2000 and identify the elements of the Excel interface
- Use the help system to find information about Excel 2000 features and procedures
- Create a new worksheet
- Copy or move the contents of a cell
- Edit and clear cell contents
- Use the Spell Check and AutoCorrect features in Excel
- Open, save, and close a workbook
- Add and delete cells, rows, and columns in a worksheet
- Add, delete, and rename worksheets in a workbook
- Use the Page Setup options to set margins, paper specifications, and headers and footers
- Print worksheets, workbooks, and selected areas of a worksheet
- Create a formula
- Build a formula with functions
- Understand the need for different types of charts
- Identify the different elements of a chart
- Create and modify a chart

Certification Information

This course does not map to a certification examination.

Re-Keying This Course

After class, you can re-key this course, or parts of it, to refresh your understanding of the material. To do so, you will need

- The minimum hardware and software required to run Excel 2000.
- A printer to complete the section "Printing Worksheets" in Module 5.
- The course data files. Get these from your instructor and then copy them to a disk.

Pre-Assessment

Use this evaluation to gauge your experience coming into class. This is *not* a test. Think of it as a tool to help you know your starting point. If you have never heard of any of the skills listed next, you might be inappropriately placed in the class. If, on the other hand, you select 3 or 4 for every feature, the class might be too easy for you.

Put an X in the box that best describes your experience with the skill.

1 - Never heard of it

2 - Have heard of it, but have not used it

3 - Have tried using it

4 - Use it regularly

Feature	1	2	3	4
Starting and exiting Excel				
Using Help				
Creating a new worksheet				
Editing text in a worksheet				
Moving and copying text in a worksheet				
Opening, closing, and saving a workbook				
Adding and deleting cells, rows, and columns in a worksheet				
Adding, deleting, and renaming worksheets in a workbook				
Changing worksheet views				

Feature	1	2	3	4
Using the Page Setup options to set margins and paper specifications				
Creating headers and footers in a worksheet and controlling pagination				
Printing worksheets and workbooks				
Creating a formula				
Using relative or absolute cell addressing in a formula				
Building a formula with functions				
Working with charts				

MODULE 1

Understanding Excel 2000 Basics

Module Time: 30 minutes

Objectives

Welcome to Excel 2000, a spreadsheet application that will help you record and present data. Complete this module, and you will know how to

A Start Excel

B Interact with the Excel interface

C Use the Help feature of Excel

Topic A: Getting Started with Excel 2000

Welcome to Excel 2000, a software package that includes electronic spreadsheet programs for calculations and graphics. A *spreadsheet program* is a computer program where data is arranged in rows and columns.

Introducing Excel 2000

Excel is not just a simple tool for calculating, manipulating, and analyzing data, but is also used for presenting information. You can use Excel as a database program and create a standard form to collect and record data and create charts. You can also use Excel to prepare budgets, profit analysis reports, or sales models for your company. Excel is primarily used for accounting and financial purposes.

Before starting an Excel project, you need to be clear about the objectives of the project, the audience it is catering to, and the information you need to present.

To use Excel, you will first need to start the program. To do so

1. Click the Start button.
2. Choose Programs.
3. Choose Microsoft Excel.

When you start Excel, the Excel window opens on your screen. The work area organized in the form of a worksheet takes up a major part of the screen. A *worksheet* is the primary document in Excel that is used to store and maintain data. A worksheet is laid out like grids with horizontal rows and vertical columns.

In a worksheet, numbers are used to represent rows and letters are used to represent columns. A *cell* is formed by the intersection of a row and a column. Data is entered into a cell. Cell names are made up of column letter and row number. For example, A20 is the cell name for the cell present in the 20^{th} row of column A.

A group of worksheets taken together form a workbook. *Workbooks* are files you create in Excel. A workbook may contain a single or multiple related or independent worksheets. When you start Excel, a workbook with three worksheets is displayed on the screen.

Illustration 1-1 shows a workbook that contains three worksheets. The first two sheets show the sales figures for product X in regions A and B taken individually for the last five years. The third sheet gives the total sales figures for product X in the two regions taken together.

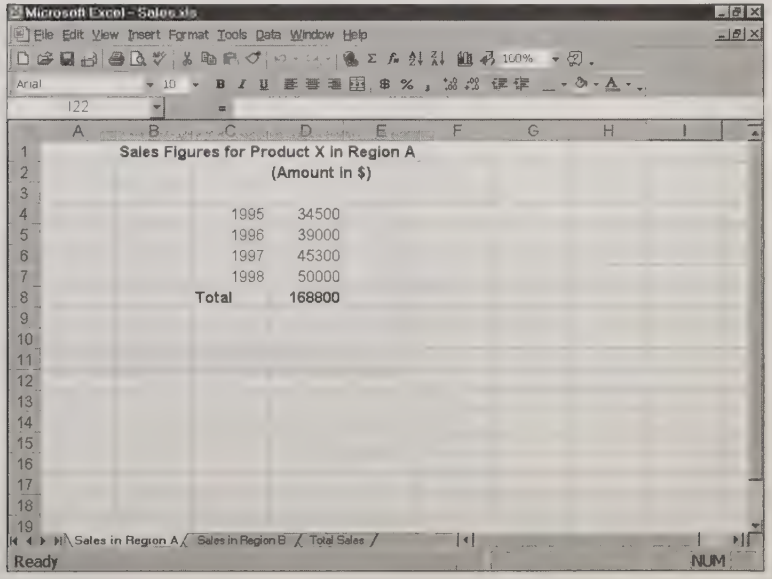


Illustration 1-1: A workbook showing individual worksheets

Identifying the Elements of the Excel Interface

Now that you have started Excel, let us explore the Excel interface. You will see a screen as shown in Illustration 1-2.

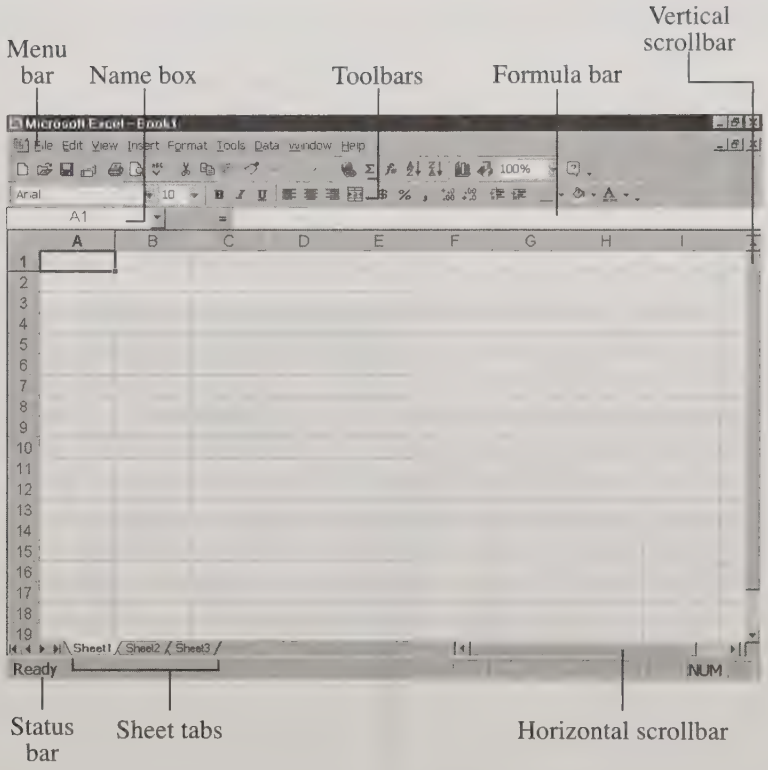


Illustration 1-2: The Excel 2000 interface

The following table summarizes the main elements of the Excel interface.

Window Element	Purpose
Menu bar	The menu bar contains menu items that you can choose to display a list of commands. When you click on a menu item, a drop-down list of options related to the menu item is displayed on the screen. Choose an option to perform an operation.
Toolbar	Commonly used commands are displayed as tool buttons on the toolbars. You can click the tool buttons to access program features quickly.

Window Element	Purpose
Formula bar	The Formula bar area is used to enter and edit data.
Name box	The Name box shows the address of the cell and the currently selected range of cells.
Scrollbars	Scrollbars are used to quickly move around the work area. By using the arrow buttons on the vertical and horizontal scrollbars, you can scroll in either direction.
Sheet tabs	Sheet tabs are used to activate and move among various worksheets.
Status bar	The status bar gives information about where you are in the program. It also lets you know if the features such as Num Lock (NUM), Caps Lock (CAPS), or Scroll Lock (SCRL) are turned on.

Activity A-1: Understanding the Excel Interface

Do This	Consider the Following
1 Select **Start**, **Programs**, **Microsoft Excel**.	This starts Excel for you.
2 Observe the menu and the toolbars.	You can see the commands available in Excel arranged under the menu names. The toolbar also displays the commonly used commands as tool buttons.
3 Observe the Formula bar.	You can enter and edit formulas in this area.
4 Observe the Name box.	You can see the address of the current cell or the currently selected range.

Activity A-1: Understanding the Excel Interface

5 Observe the Sheet tabs and status bar.	You click on the sheet tab to activate and move to the corresponding worksheet. You can get information about the position of the cursor from the status bar.

Interacting with Excel Interface

You interact with the Excel interface by inserting data into the cells of a worksheet and by using the mouse to choose menu commands or click options. You use the Excel menu bar and toolbars to perform various operations such as saving, editing, or printing a worksheet.

Illustration 1-3 shows Excel's menu bar. To use it, choose a main menu and then choose a command from the menu that appears.

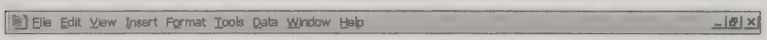


Illustration 1-3: The Excel menu bar

Alternatively, you can execute Excel commands by clicking toolbar buttons. Excel provides various floating toolbars. *Floating toolbars* are not anchored and can be dragged and placed wherever convenient. These toolbars can be activated or deactivated as required. You can use ScreenTips to find out what operation a toolbar button performs. *ScreenTips* are short descriptions that appear when you point to a button onscreen.

When you start Excel, you can see the Standard toolbar and the Formula bar just below the menu bar. Illustrations 1-4 and 1-5 show you the Standard toolbar and the Formula bar respectively.

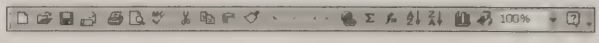


Illustration 1-4: The Excel Standard toolbar

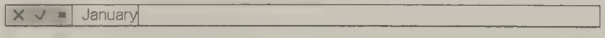


Illustration 1-5: The Excel Formula bar

You can display any of the floating toolbars available under Excel. To do so

1 Click the View menu.
2 Select the Toolbars option.
3 Click the required toolbar. A checkmark appears against the selected toolbar.

The selected toolbar is displayed. You can drag the toolbar to a desired location on the screen.

You can also hide an Excel toolbar. To do so

1 Choose the View menu.
2 Select the Toolbars option.
3 Click the checkbox of the toolbar that needs to be hidden.

The following table lists the frequently used toolbars in Excel and their functions.

Toolbar	Function
Standard	This toolbar contains commands for program functions, such as New, Open, Print, and Close.
Formatting	This toolbar contains tools to format your documents.
Drawing	This toolbar contains drawing tools.
Picture	This toolbar is displayed when you are working with a graphic.
Clipboard	This toolbar contains icons that represent the last twelve items sent to Windows Clipboard during the present Windows session.
Chart	This toolbar contains buttons to create and edit a chart.

Activity A-2: Displaying and Hiding the Drawing Toolbar

Do This	Consider the Following
1 Select **View**, **Toolbars**.	You can see the drop-down View menu showing commands such as Header and Footer, Toolbars, Formula bar, and Status bar. Observe the list of available toolbar options such as Picture, Chart, Formula, Drawing and Standard.
2 Select **Drawing**.	You see the Drawing toolbar on your screen. It can be dragged anywhere on the screen.
3 Select cell **A1** and click  on the Drawing toolbar.	You click the Font color (Automatic) icon in the Drawing Toolbar button and select red.
4 Select **View**, **Toolbars**.	You can see the drop-down View menu with toolbars as one of the options. Choosing Toolbars displays a list of the various types of toolbars. The toolbars displayed on the screen have a check mark next to them.
5 Click **Drawing**.	You can observe that the Drawing toolbar is removed from the screen.

Topic B: Getting Help

There are times when you may need online help. You can get help in various ways as you work in Excel.

1 Use Office Assistant.
2 Choose a specific topic from the series of help topics by using the Help menu.

Using Office Assistant

Excel provides online help through Office Assistant. *Office Assistant* is an animated help tool that provides context-sensitive tips as you work.

Office Assistant, an animated paper clip character, is displayed by default. You can invoke Office Assistant if it does not appear when you start Excel. To do so

1 Choose the Help menu.
2 Click the Microsoft Excel Help option.

Office Assistant can also be invoked by clicking the Office Assistant button on the Standard toolbar. Alternatively, press F1 on the keyboard to invoke Office Assistant. When Office Assistant is invoked, a balloon appears next to its box asking for the kind of help you want. The Office Assistant is illustrated in Illustration 1-6.

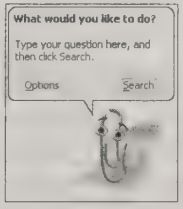


Illustration 1-6: Office Assistant

Office Assistant can be used to get answers to your queries in the programs under the Office suite. To do so:

1 Invoke Office Assistant. When Office Assistant appears on the screen, click on it once.
2 Type the question text box and click Search.
3 Click on the topic that is most closely related to your question to get the answer frame that displays the required information as shown in Illustration 1-7.
4 Click the Close button to close the answer frame and return to your worksheet.

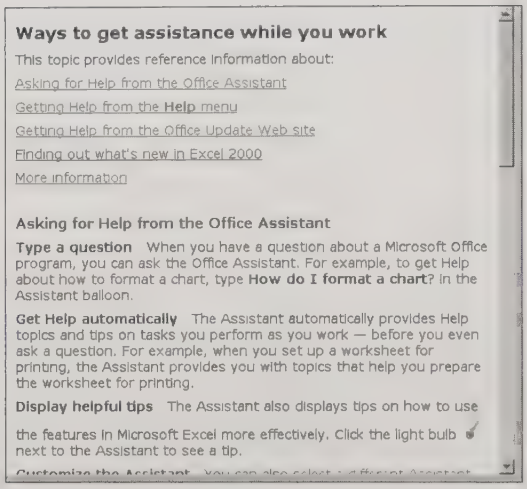


Illustration 1-7: An answer frame

You can also customize the appearance of Office Assistant. To do so

1. Right-click on Office Assistant to display the context-sensitive menu.
2. Click Choose Assistant. The Office Assistant dialog box will be displayed as shown in Illustration 1-8.
3. Click the Back or Next buttons to cycle through available characters.
4. Select a character and click OK.

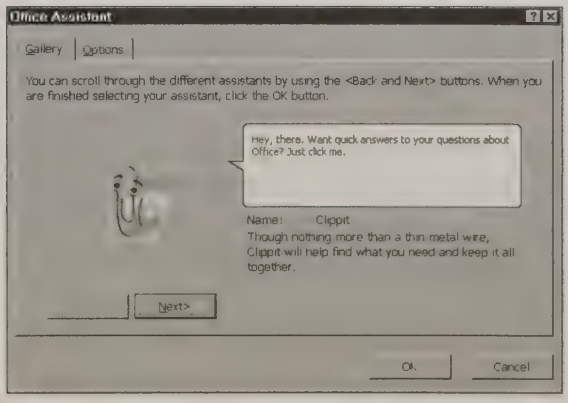


Illustration 1-8: The Office Assistant dialog box

If Office Assistant obstructs the information on the screen you can hide Office Assistant. For this you need to right-click on Office Assistant and select Hide from the context-sensitive menu. Alternatively, click Help on the menu bar and choose Hide the Office Assistant option.

Activity B-1: Interacting with Office Assistant

Do This	Consider the Following
1 Click Office Assistant on the screen.	Office Assistant gets activated and displays a balloon with a text box.
2 Type the question How do I save a workbook?	Type the query in the text-box of the Office Assistant balloon.
3 Click **Search**.	Office Assistant starts searching for the answer to your query. You can see a list of topic options available.
4 Choose the topic you want to see by clicking on it.	You need to select the topic that is closest to your query. An answer frame appears on the right corner giving you the required information.
5 Close the Help window.	You can also print the information about a topic by clicking the print button.

Getting Help on a Specific Topic

When the Office Assistant feature is turned off, you can choose Microsoft Excel Help from the Help menu to get help on a specific topic.

Activity B-2: Getting Help on a Specific Topic

Do This	Consider the Following
1 Select **Help**, **Microsoft Excel Help**.	You can see the Microsoft Excel Help dialog box with three tabs: Contents, Answer Wizard, and Index.
2 Click the **Contents** tab.	You can see a list of items on your screen.

Activity B-2: Getting Help on a Specific Topic

3 Select the option **Formatting Worksheets**.	You can observe the sub-topic About worksheet formatting.
4 Click **About Worksheet Formatting**.	You can see the required information in the answer frame.

MODULE SUMMARY

Understanding Excel 2000 Basics

In this module, you learned about the basics of working with Excel 2000.

You learned to start Excel and identify the Excel interface, including the menu bar, toolbars, scrollbars, Name box, Sheet tabs and Formula bar. Next, you learned how to display and hide the floating toolbars.

Finally, you examined the various ways of getting online help while working with Excel. These included using Office Assistant and also getting help on specific topics when the Office Assistant feature is turned off.

Exercise: Working with Excel

Time to Complete: 10 minutes

1 Start Excel.

2 Use Office Assistant to search for help on printing a worksheet.

MODULE 2

Working with a Workbook

Module Time: 45 minutes

Objectives

Excel provides user-friendly solutions to problems encountered in maintaining records manually. In Excel, workbooks and worksheets are used to enter, update, and store data. Complete this module, and you will know how to

A Create a worksheet

B Open a new or existing workbook

C Save and close a workbook

Topic A: Typing Data into a Worksheet

In an Excel worksheet, you enter data into a cell. A *cell* is formed by the intersection of a row and a column and is a primary unit of measure in Excel. You can enter the data by selecting a cell and double-clicking it. You can move to the next cell by pressing the Enter key on the keyboard.

Alternatively, you can enter data by typing the content in the text box on the Formula bar and then clicking the green check mark. The data you have typed can be deleted either by clicking the Cancel button on the Formula bar or by pressing the Backspace key on the keyboard. Observe the Enter and Cancel buttons on the Formula bar in Illustration 2-1.

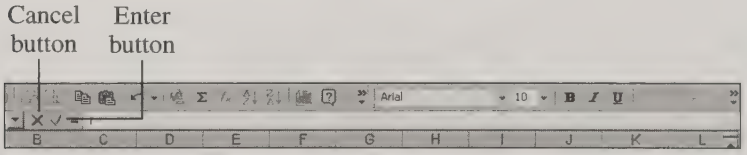


Illustration 2-1: The Formula bar

When you type the data in a cell, it is displayed on the Formula bar also. This can be seen in Illustration 2-2.

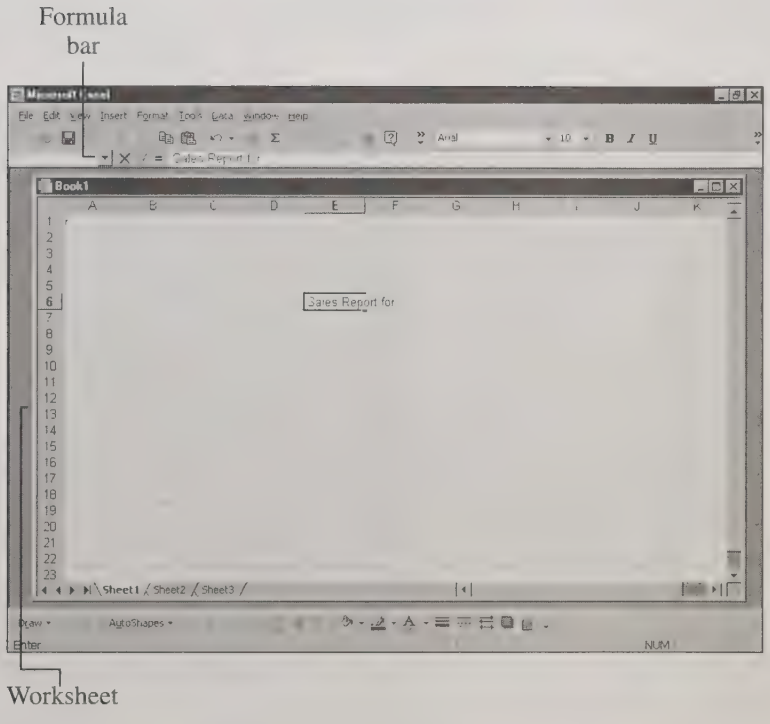


Illustration 2-2: The Formula bar showing the data you type into the cell

The data that you enter can be in the form of numbers, text, dates and times, or currency. Excel determines the type of data entered and aligns it accordingly. In general, you can make three types of data entries: labels, values, and formulas.

Typing Labels in a Cell

Most of the data entered in a worksheet is of the label type. In Excel, alphanumeric data is called a *label*. A label can contain text, numbers, and spaces. Labels can be used to enter data such as a heading to a worksheet or an address such as 345 East Ville Street.

You can enter labels into a worksheet by clicking in a cell and typing into it. By default, labels are left aligned, but the alignment can be customized. When the size of the content of the label exceeds the width of the cell, the content extends to the next cell if the adjacent cell is empty. You can see this in Illustration 2-3. If the next cell is not empty, the entire content of the label is not visible.

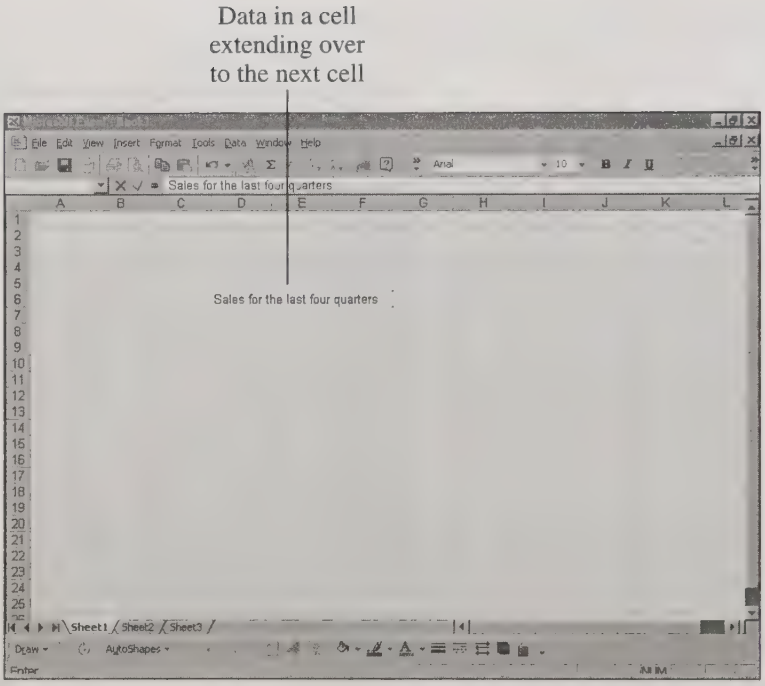


Illustration 2-3: Data in a cell extending to the adjacent cells

Activity A-1: Typing Labels in a Cell

Do This	Consider the Following
1 Click cell **D4**.	You can observe that the cell D4 is highlighted.
2 Type **Sales Revenue for the month of January** and make it bold.	Observe the text being left-aligned in the cell. You can also see that the label extends to adjacent cells as the cells are empty.
3 Press Enter.	The data you typed is placed in cell D4.
4 Click in cell **C7**.	Cell C7 is highlighted.
5 Type **Product A** into cell C7 and press Enter.	Cell C8 is highlighted.

Activity A-1: Typing Labels in a Cell

6	Type **Product B** into cell C8 and press ↵Enter.	Cell C9 is highlighted.
7	Type **Product C** into cell C9 and press ↵Enter.	Cell C10 is highlighted.
8	Type **Total** into cell C10 and press ↵Enter.	Cell C11 is highlighted.

Typing Values into a Cell

Values are numbers that are typed into a cell. You will observe that Excel treats labels and values differently. In Excel, calculations cannot be performed with labels, although labels may contain numbers. Excel uses values for calculation purposes. Values are displayed in the General number format. In the General number format, a number can be typed with a decimal point, a dollar sign, a comma, a percent sign, the date and time, or a fraction in a cell.

Therefore, arithmetic operators such as plus (+), minus (-), decimal point (.), and special characters such as dollar sign ($), parenthesis (), and percent (%) are also referred to as values.

The procedure for entering values in a worksheet is not different from that of entering labels. By default, the values are right aligned. As in the case of labels, the alignment of values can also be customized.

When a value exceeds the width of the cell, a set of #s is displayed in the cell to indicate that the value could not be displayed.

In Excel, a number can also be treated as text. To do so, place a single quotation mark before the number. The quotation mark is not visible in the cell but can be seen on the Formula bar. This can be observed in Illustration 2-4.

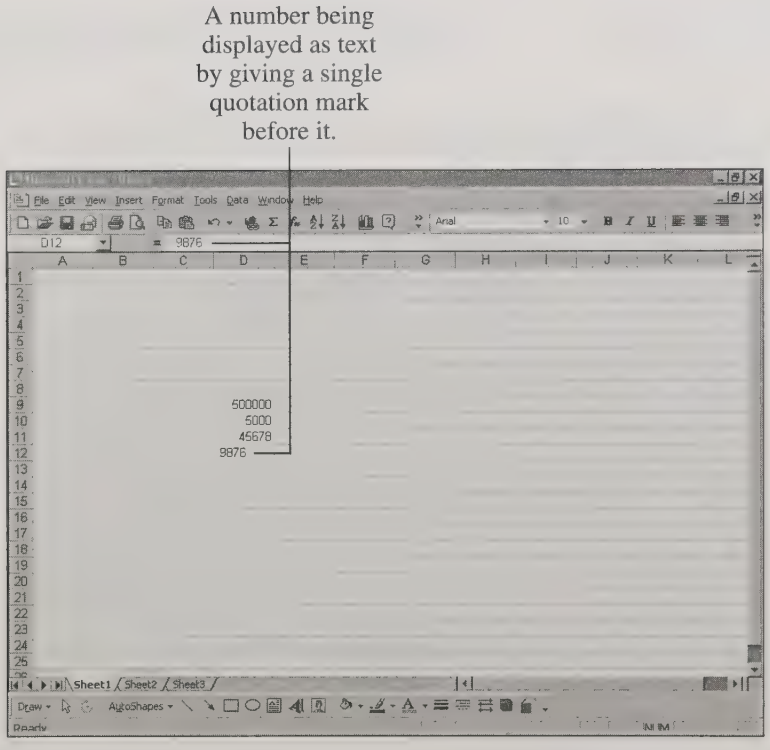


Illustration 2-4: Displaying a number as text

You can also insert fractions into a cell. For this, you need to ensure that the syntax for fractions is correct. For example, if you want to type 3 3/4, type the number 3, give a blank space, and then type the fraction 3/4. If you want to enter only the fractional portion such as 3/4, type a 0, then type a space, and then type the fraction 3/4.

Date and time are treated as values in Excel; therefore, they can be included in calculations. Dates and times are handled internally and are represented by serial numbers.

You can use different formats for displaying dates. Some general formats include

- mm/dd/yy, such as 02/19/97
- mmm-yy, such as Feb-97
- dd-mmm-yy, such as 19-Feb-97
- dd-mmm, such as 19 Feb

In Excel, a year can be entered either in the two-digit or the four-digit format.

Excel treats time as a fractional part of 24 hours. For example, you can treat 6:30 p.m. as the value 18:30.

Formulas are yet another type of data. *Formula* refers to a value that is produced by a sequence of values, cell references, names, functions, or operators entered in a cell. Formulas are used to perform calculations on the numerical data in cells. Formulas can contain numbers, cell references, and arithmetic operators. To indicate that the entry in a cell is a formula, you precede the entry with the symbol =.

Activity A-2: Typing Values into a Cell

Do This	Consider the Following
1 Type **Region1** into cell D6 and press ↵Enter.	You can see Region1 displayed in the cell.
2 Type **10000** into cell C7 and press ↵Enter.	You can see that the value that you have typed is being right-aligned in the cell.
3 Type **2000** into cell D8 and press ↵Enter.	You can see the value 2000 in the cell.
4 Type **6500** into cell D9 and press ↵Enter.	You can see the value 6500 in the cell.
5 Type **=10000+2000+6500** in the cell D10 and press ↵Enter.	You can see that the sum is calculated and is displayed in the cell D10.
6 Type the report number **1001** in G5, prefaced with a single quotation mark, and press ↵Enter.	You can see that the cell entry is treated as text and is left-aligned. However, the quotation mark is not visible in the cell but can be seen on the Formula bar.

Using the AutoComplete and AutoFill Features to Type Data into a Cell

Typing a large amount of data can be monotonous. There is also the danger of making mistakes with repetitive data. Excel provides you with the AutoComplete and AutoFill features that make data entry simple.

*AutoComplete*is a feature in Excel used to automate the insertion of text if you have to type the same text multiple times. The AutoComplete feature assumes that you want to type the same text that you have previously typed.

When you type the first few letters of a previously typed text, AutoComplete automatically fills the cell with the same text. If you do not want the same text, keep typing to overwrite the AutoComplete entry. The AutoComplete feature helps in reducing the chances of typing errors.

Alternatively, right-click the cell adjoining the cell where you want the text to appear. Observe the options available in Illustration 2-5. Choose the Pick from List option. AutoComplete provides a list of words you have previously used in the worksheet. Choose from the list of words displayed by clicking on it. You will see that the list disappears and the word is inserted into the cell.

Illustration 2-5: Pick from List is one of the options

The *AutoFill* feature automatically completes a *data series* in an adjacent group of cells. A *data series* is a series of related information appearing in consecutive cells one below the other. The data series can begin with information you have previously typed. For example, you can have a series of numbers from one to ten in consecutive cells one below the other.

AutoFill can be activated in a number of ways. One way to use the AutoFill feature is to make use of the *fill handle*, a small cross found in the lower right corner of a selected cell or cells. To do so

1 Type data into a cell and select an adjacent cell or range of adjacent cells in a row or column.

2 Place the mouse pointer on the fill handle. The mouse pointer changes to a cross.

3 To copy, drag the mouse over the range of selected cells until you have completed the data series of your choice. To increment the numbers, hold down the Control key while dragging. In Illustration 2-6, you can see how the fill handle inserts data into a worksheet.

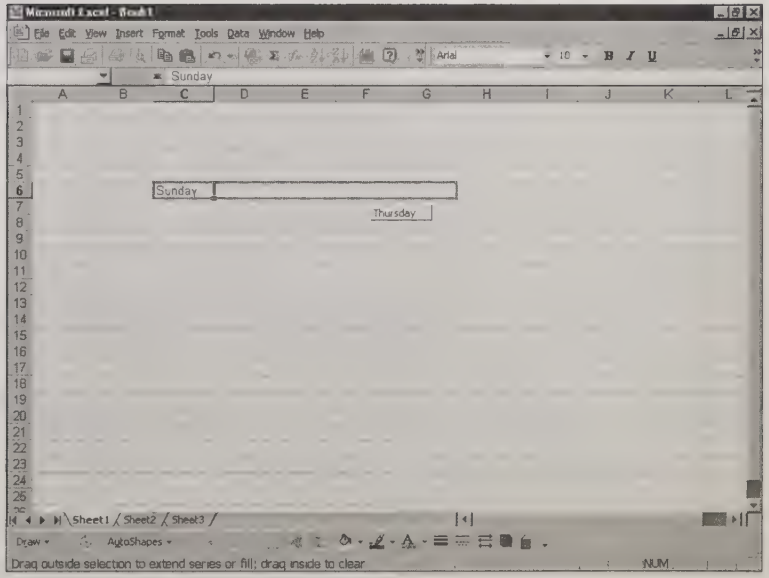


Illustration 2-6: Using the fill handle to AutoFill cells

You can create the series in ascending or descending order. To create an ascending series, drag the fill handle to neighboring cells. To create a descending series, drag the fill handle to the left or the top of the worksheet.

Activity A-3: Using the AutoComplete and AutoFill Features to Type Data into a Cell

Do This	Consider the Following
1 Right-click cell **C11**.	You can see that cell C11 is highlighted, and a list of options is displayed.
2 Select the **Pick From List** option.	A list is displayed.

Activity A-3: Using the AutoComplete and AutoFill Features to Type Data into a Cell

3	Observe the list of available options.	You can see that the list contains the text entered into the cells above C11.
4	Select any one option.	The option appears as the text in cell C11.
5	Click cell **E6**.	You can see the cell E6 is highlighted.
6	Place the mouse pointer on the lower-right corner of the cell and drag the fill handle across the adjacent cells of the row.	You can see the data getting automatically inserted into the cells.

Topic B: Saving a Workbook

When you are working on a workbook, the data you enter is actually stored in the temporary storage space of your computer. You have to save the workbook as soon as you enter some values or text to secure the content. To do so

1. Click the Save button on the Standard toolbar.
2. Enter the filename and choose the folder or sub-folder in which the file is to be stored.
3. Click the Save button.

Saving the work you have done is essential to ensure permanent storage of all the work you have done on your worksheet. Saving your workbook will ensure a backup of all your data. When you save your work, it involves deciding on the following:

1. The location of the folder in which the file is saved
2. The name of the file
3. The format of the file

Saving a Workbook for the First Time

When you save a workbook for the first time, you are prompted to enter information, such as the name of the file, the place of storage, and the file type of the file you need to save.

Files are stored in folders or in subfolders. The folders are found in a partition. A partition is a portion of the hard disk that has been allocated for storing files and installing software. A partition is like a bank where money and valuables are saved.

A folder is like a bank locker, and a subfolder is a box kept in a bank locker. The folders are stored in drives that are alphabetically numbered. The files you store are like the valuables kept in the locker.

You need to save the worksheet you have worked on for the first time. To do so

1 Select File on the menu bar. The drop-down menu is displayed on the screen.

2 Select Save. The Save As dialog box is displayed. You can observe the Save As dialog box in Illustration 2-7.

3 Select the drive in which you want to save your file by clicking the drop-down arrow of the Save In text box. Click on the selected drive.

4 Select a folder in which your file should be located by clicking the list of folders displayed in the list box.

5 Type the name of the file in the File Name text box. If you do not list a filename, Excel gives the file a name such as Book1.

6 Click Save to make a lasting copy of the workbook.

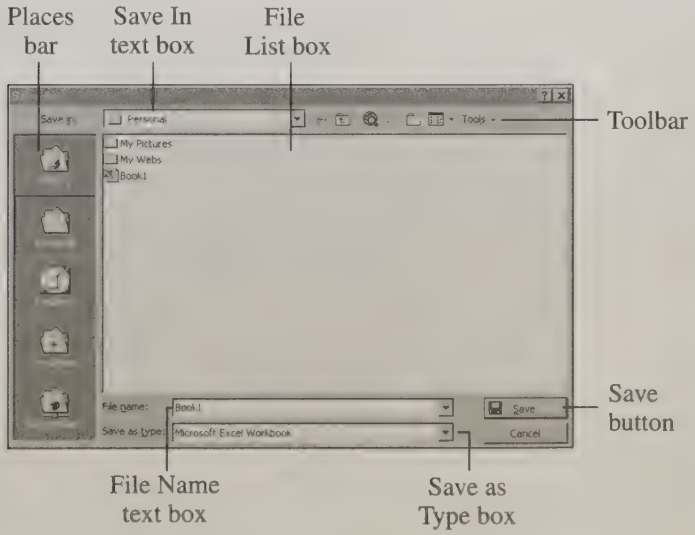


Illustration 2-7: The Save As dialog box

The file extension XLS is added to the filename and the Save As dialog box closes. The filename you typed is displayed on the title bar. If you do not give a name to the file, the filename assigned by Excel appears on the title bar.

The Save As Dialog Box

When you save your workbook for the first time, the Save As dialog box is displayed on the screen. All the information required from you when the file is being saved for the first time needs to be filled in the dialog box.

The following table summarizes the available options in the Save As dialog box.

Option	Purpose
Toolbar	The commonly required commands are displayed as tool buttons. You can click the tool buttons to access the various options.
Save In text box	This displays the current drive or folder. Click the drop-down arrow to display all the drives or folders available.
Places bar	You can select a folder easily by clicking on it.
File list	You can the list of files contained in the currently open folder. The File list can contain files and subfolders.
File Name text box	You can enter the name of the file in the File Name text box.
Save As Type text box	This specifies the type of file the work is saved as. By default, Excel saves the file type as an Excel workbook.
Save button	Finally, you click the Save button to save the file permanently.

Activity B-1: Saving a Workbook for the First Time

Do This	Consider the Following
1 Click the **Save** button on the Standard toolbar.	You can see the Save As dialog box displayed.
2 Click the drop-down arrow of the Save In text box.	You will see a list of location options where you can save your workbook.
3 Select **C:**.	You can see a list of folders in C: drive displayed. The C: drive can be seen as the current drive in the Save In text box.
4 Select the **Reports** folder.	You can observe a list of files in the Reports folder. You can see Reports shown as the current folder in the Save In text box.
5 Type **Sales.xls** in the File Name text box.	Excel assumes the filename as Book1 if you do not specify your own filename.
6 Click the **Save** button.	Your workbook is permanently saved now.

Saving an Existing Workbook with a New Name

You can save a workbook with a different name to make a copy of the open workbook. Any work that may change the content of the file should be done on the copy. For example, you can save a Report with a different name and use the copy for analysis while leaving the original report intact.

AutoSave Feature

You need to save the data that you type in the worksheet at regular intervals to prevent data loss. To save you from the tedium of having to click the Save button every few minutes, Excel provides you with the AutoSave feature. By using the AutoSave feature your work can be saved at specified intervals without any prompting from you.

You can activate AutoSave by using the Tools option on the menu bar. Alternatively, it can be installed from the Add-Ins option in the tools menu. To do so

1 Click Tools menu.
2 Choose Add-Ins.
3 Select the check box next to AutoSave Add-In.
4 Click the OK button.

To deactivate the AutoSave feature, click the Tools menu, choose Add-Ins, and uncheck AutoSave Add-In.

Activity B-2: Saving an Existing Workbook with a New Name

Do This	Consider the Following
1 Select **File**, **Save As**.	The Save As dialog box is displayed.
2 Type **Sales Analysis.xls** in the File Name text box.	This is the name you are going to use to name the copy.
3 Click **Save**.	Your workbook is now saved with a different name.

Topic C: Opening a Workbook

Excel allows you to create a new workbook or open an existing workbook. Opening a workbook is a simple operation in Excel. In fact, when you start Excel, a workbook is automatically opened for you with a name such as Book1. When you save the file, the name you type overwrites the default name.

Opening a New Workbook

As you are working on one workbook, you can open a new workbook. To do so

1 Select File on the menu bar.
2 Select New. The New dialog box is displayed, as shown in Illustration 2-8.
3 Click OK.

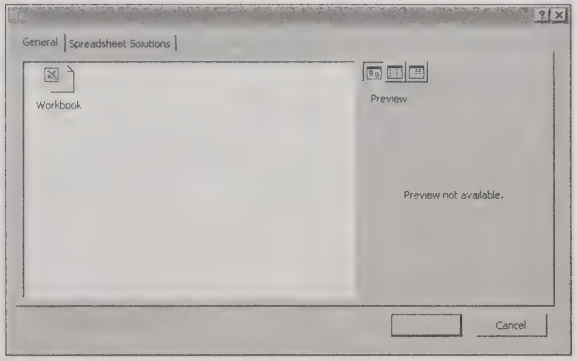


Illustration 2-8: The New dialog box

Alternatively, you can click the New button on the Standard toolbar, as you can see in Illustration 2-9.

Illustration 2-9: The New button on the Standard toolbar

When you do so, the New dialog box is not displayed, but a new workbook is opened.

Closing a Workbook

A workbook can be closed without quitting Excel. To do so

1. Select Close from the File menu.
2. If the changes made in the workbook are not saved before the Close operation, Excel displays a dialog box confirming to save the file, as you see in Illustration 2-10.
3. Click Yes if you want to save it or click No if you do not want to save the changes. This will close the workbook.

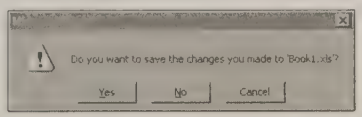


Illustration 2-10: Message box asking if you want to save the workbook

Activity C-1: Opening a New Workbook

Do This	Consider the Following
1 Select **File** on the menu bar.	Observe the drop-down menu, listing options such as New, Open, and Close.
2 Select **New**.	You can see the New dialog box displayed on your screen with Workbook highlighted.
3 Click **OK**.	A new workbook is displayed.
4 Select **File**, **Close** to close the workbook.	If you have not saved your file, a dialog box is displayed asking you if you want to do so.

Opening an Existing Workbook

While working in Excel, you may need data from other workbooks. You can view and work on an existing workbook. To do so

1 Select File on the menu bar.
2 Select Open from the File menu.
3 Select the folder or subfolder where your file is stored.
4 Select the file of your choice.
5 Click Open.

Activity C-2: Opening an Existing Workbook

Do This	Consider the Following
1 Select **File**, **Open**.	The Open dialog box is displayed.
2 Click the drop-down arrow next to the Look In box.	You can see a list of locations displayed on your screen.
3 Select the **C:** drive.	Drive C becomes the current drive. You can see all the folders on the C drive.
4 Select the **Reports** folder.	You can see all the files in the Reports folder.

Activity C-2: Opening an Existing Workbook

5 Click on the **Sales** file.	You can see the Sales file open. You open a file so that you can edit it.
6 Select **File**, **Close** to close the workbook.	This closes the workbook that you had opened.

MODULE SUMMARY

Working with a Workbook

In this module, you learned about different kinds of data entries such as labels, values, and formulas. You also learned how to create a worksheet and enter text, numeric values, and repetitive data quickly and easily. You learned to use the AutoComplete and AutoFill features of Excel.

You came to understand the significance of saving data. You learned how to save files and to give a different name to the copy of a file. You also learned how to activate the AutoSave feature of Excel.

Finally, you learned how to open and close new and existing workbooks.

Exercise: Opening, Creating, and Saving the Workbook

Time to Complete: 15 minutes

1 Create a new worksheet containing the given profit figures of your company for the past two quarters.

Statement of Profit

	Quarter 1	Quarter 2
Region A	$12,000	$15,000
Region B	$53,000	$45,000
Total		

2 Calculate the total profit made in each quarter for the two regions and enter the figures in the Statement of Profit worksheet.

3 Save the workbook as Profits.xls in the Reports folder on the C: drive.

MODULE 3

Editing Data in a Worksheet

Module Time: 45 minutes

Objectives

Excel provides editing features that help you rearrange the data you enter in your worksheets. Complete this module, and you will know how to

- **A** Copy and move the contents of a cell
- **B** Use the Clipboard toolbar to move and copy cell contents
- **C** Edit and remove cell contents
- **D** Use the Spell Check and AutoCorrect features

Topic A: Copying and Pasting Data in Cells

While maintaining a workbook, you may need to replicate data in various worksheets. For example, while generating quarterly sales reports, you may require data from the monthly reports. Instead of manually typing the data again, you can copy the data from the monthly sales reports to the quarterly report. In Excel, you can copy data from one location to another in the same worksheet or to other worksheets in the same workbook. You can also copy data from one workbook to another.

You can copy data with the help of a Windows utility called Clipboard. *Clipboard* is a special memory area where data is stored temporarily before being copied to another location. When you copy data from a location, the data is placed on Clipboard. When you use the Paste command, the data from Clipboard is moved to the preferred location. The data can be pasted into an Excel worksheet multiple times.

Copying Data from One Cell to Another

Before you can copy data, you need to select the cells from which the contents need to be copied. You select a single cell by clicking it. You select an entire row or a column by clicking the row or column heading. By using your mouse, you can drag and select a rectangular range of cells.

You can also copy data from one cell or a group of cells to another cell or cells by using the menu bar. Select the cell or the range of cells whose contents are to be copied. Select Edit, Copy from the menu bar. You observe a marquee around the copied cells. Then click the destination cell where you want to paste your copied data. Select Edit, Paste from the menu bar. The contents of the selected cells will be copied to the preferred location.

You will notice that the dotted marquee is present on the worksheet even after the paste operation is complete. To remove the dotted marquee, press the Escape key on the keyboard.

Alternatively, you can perform a copy and paste operation by using the Standard toolbar. To do so

1. Select the cell or the range of cells whose contents are to be copied.
2. Click the Copy button on the Standard toolbar.
3. Select the cell where the copied data will be pasted.
4. Click the Paste button on the toolbar.

The selected cell contents will be copied to the preferred location.

Activity A-1: Copying Data from One Cell to Another

Do This	Consider the Following
1 Open Sales.xls from the Student folder and select the worksheet **JanRep**.	You select a worksheet by clicking the tab of the worksheet.
2 Select cell **A3**.	The contents of cell A3 will be copied to the FebRep worksheet.
3 Click  on the Standard toolbar.	The contents of the selected cell range are copied to the Clipboard.
4 Select the **FebRep** worksheet and select cell **A3** by clicking it.	This is the destination where the copied data is to be pasted.
5 Click  .	The contents are pasted to the new location.

Copying Data by Using the Clipboard Toolbar

You learned to copy data by using the Standard toolbar and the Edit menu options. Another way of copying data is by using the Clipboard toolbar.

The *Clipboard toolbar* is a floating toolbar that appears across your worksheet whenever you copy or cut more than one selection during your current Windows session. You drag and place the toolbar at a convenient location. Illustration 3-1 shows the Clipboard toolbar.

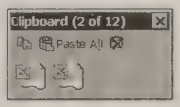


Illustration 3-1: The Clipboard toolbar

The Clipboard toolbar is a new feature of the Office 2000 application. The special feature of the Clipboard toolbar is that it can hold up to 12 copied selections.

The following table displays the Clipboard toolbar's various buttons and their functions.

Button	Functionality
	You click the Copy icon to place the selected data in the Clipboard.
	You paste all the items from the Clipboard to the worksheet using the Paste All icon.
	You use the Clear Clipboard icon to remove all the current Clipboard items.

The advantage of using the Clipboard toolbar for copying data is that you can pick and paste from any of the 12 previously copied selections, instead of pasting the last data that you copied. You can view the contents of the copied selections by positioning your mouse pointer over the items on the Clipboard toolbar. You will see a screen tip with a few words from the selected contents.

Activity A-2: Copying Data by Using the Clipboard Toolbar

Do This	Consider the Following
1 Select the **JanRep** worksheet.	This worksheet contains the data to be copied to the FebRep worksheet.
2 Select the cell range **A6** through **E6** and click the **Copy** button.	The contents of the cell range A6 through E6 are stored as the first item in the Clipboard toolbar.
3 Select the cell range **A7** through **A12** and click the **Copy** button again.	The contents of cell A7 through A12 are stored as the second item in the Clipboard toolbar.
4 Select the **FebRep** worksheet and click cell **A6**.	This is the destination cell where the first item on the Clipboard toolbar is to be copied.
5 Click the first item on the Clipboard toolbar.	Observe the first copied selection being copied into the cell.
6 Select cell **A7** on the worksheet.	This is the destination cell where the second item on the Clipboard toolbar is to be copied.

Activity A-2: Copying Data by Using the Clipboard Toolbar

7 Click the second item on the Clipboard toolbar.	The second item is the second copied selection on Clipboard. Observe the contents of the cell range B7 through B12 copied into the cell.
8 Select cell **A21** on the worksheet.	This is the location where all the contents held by the Clipboard are to be copied.
9 Click the **Paste All** button on the Clipboard toolbar to copy the contents of the cells ranging from A6 through E6 and from A7 to A12.	Observe all the contents of the Clipboard being copied to the preferred location.

Topic B: Moving Data Across Cells

While working on a worksheet, you may encounter the need to move data from one location to another. The operation of moving data from one place to another is called *Cutting and Pasting*. Unlike copying data, moving data involves removing the data from one location and pasting it in another location. There are various methods of moving data from one cell or a range of cells to another location.

The data from the source cell is moved to Clipboard whenever you perform a Cut operation. When you use the Paste command, the data from Clipboard is pasted in the preferred location.

Moving Data by Using the Standard Toolbar Buttons

Sometimes, you may find that you entered the data in the wrong location and you need to move the contents to a new location. In Excel, you can move the cell contents by using the Edit option on the menu bar.

You need to select the cells whose contents are to be moved to another location. You choose the Edit, Copy option from the menu bar to move the contents of the selected cells to the preferred location.

You can move data by using the buttons on the Standard toolbar. To do so

1 Select the cell or range of cells to be moved.
2 Click the Copy button on the Standard toolbar.
3 Select the destination cell where the data is to be moved.
4 Click the Paste button on the toolbar.
5 Observe the selected cells being moved to the preferred location.

Activity B-1: Moving Data by Using the Standard Toolbar Buttons

Do This	Consider the Following
1 In the JanRep worksheet, select cell **A3**.	This is the source cell whose contents are to be moved.
2 Click  on the Standard toolbar.	The contents of A3 are moved to the Clipboard.
3 Select the cell **C3**.	This is the destination cell where the contents of cell A3 are to be moved.
4 Click the **Paste** button.	The contents of cell A3 are pasted into cell C3.

Moving Data by Using the Drag-and-Drop Technique

The drag-and-drop method helps you move data from one location to another with the help of your mouse. It is a convenient way of moving data within the area of your worksheet that you view.

Before moving the data, you need to select the cells according to the methods discussed earlier in this module. Move your mouse pointer over the border of the highlighted cells and observe that the mouse pointer takes the shape of an arrow. Click the mouse button and drag the border. You notice that an outline of the selected cells appears as the cells are being dragged as shown in Illustration 3-2.

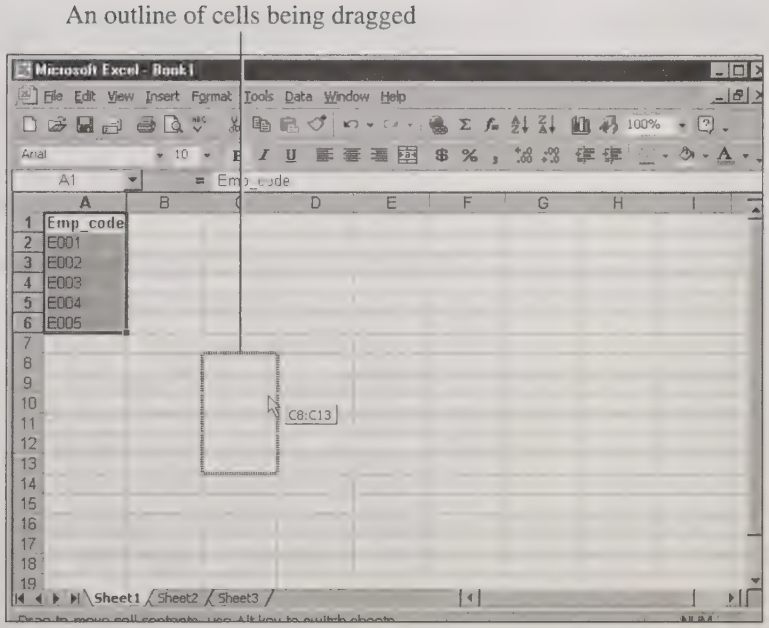


Illustration 3-2: An outline appears as cells are being dragged

You continue dragging the cells until the outline is located in the area where you want the data to appear. When you release the mouse button, you observe the data in the new location.

Activity B-2: Moving Data by Using the Drag-and-Drop Technique

Do This	Consider the Following
1 Select cell **A1** in the JanRep worksheet.	This is the data that is to be moved to cell C1.
2 Move the mouse pointer over the border of the selected cell.	The mouse pointer takes the shape of an arrow.
3 Drag and release the mouse at cell C1.	While dragging the contents, you observe the cell references for the dragged cell being displayed with the dotted outline of the selected cells.

Topic C: Modifying the Contents of a Cell

In the course of your project, you may need to modify the data in your worksheet to make your data presentable and accurate. You may need to edit the contents of the cells or delete the data entered. Excel provides editing features that help you modify the data entered in your worksheet.

Editing and Deleting the Contents of a Cell

You can use the formula bar to edit the contents of a cell. The formula bar displays the contents of the active cell. Place the insertion point on the formula bar and make the required changes to the cell contents. After you complete the modification, click the Enter button on the Formula bar.

You can also modify the contents of a cell by double-clicking the cell. Notice that the insertion point appears at the end of the existing cell contents. Observe that the highlighted border of the selected cell takes on a lighter shade. After you modify the cell contents, press the Enter key on the keyboard.

You may need to delete the contents of a cell instead of editing it. You can clear the contents of a cell by choosing Edit, Clear Contents from the menu bar. To delete the contents of a cell

1. Select the cell or the range of cells whose contents are to be deleted.
2. Right-click the selected cell.
3. Choose the Clear Contents command from the context-sensitive menu.

Activity C-1: Editing and Deleting the Contents of a Cell

Do This	Consider the Following
1 Double-click cell **A9** in the **JanRep** worksheet.	The insertion point is placed at the end of the existing cell contents. You notice that the highlighted border of cell A9 takes on a lighter shade.
2 Type **I007**.	This is the change that you are making to cell A9.
3 Press the ↵Enter key on the keyboard or click the **Enter** button on the formula bar.	This step completes the editing process.

Activity C-1: Editing and Deleting the Contents of a Cell

4 Right-click cell **A5**.	This invokes a pop-up menu.
5 Select **Clear Contents** from the shortcut menu.	This command clears the contents of cell A5.

Editing the Contents of a Cell by Using the Spell Check and AutoCorrect Features

Spell Check is an important Excel proofing tool. It checks the possible spelling errors in your worksheet and then displays various suggestions to correct the errors. While performing a Spell Check operation, Excel alerts you of any word it encounters that is not found in the custom dictionary. Spell Checker also alerts you when it finds repeated words, such as *thethe*; when it finds uncommon capitalization, such as *eXCel*; or when it encounters words that are supposed to be capitalized but are not, such as e*dison*.

You can check the spelling errors in your worksheet by pressing the F7 key on the keyboard or by choosing Tools, Spelling from the menu bar. If Spell Checker encounters a spelling error in your worksheet, the Spelling dialog box is displayed. Illustration 3-3 shows the Spelling dialog box.

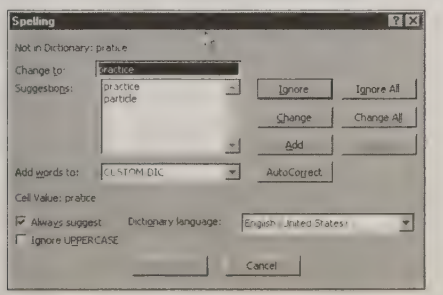


Illustration 3-3: The Spelling dialog box

The Spelling dialog box displays the first misspelled word with the reason for flagging the word. It also displays some suggested spellings from the dictionary. You can correct the word either by clicking any suggested spellings or by typing the correct spelling in the Change To text box. If the word should be ignored, you can click the Ignore button in the dialog box. If the Ignore Uppercase option is selected, the uppercase letters are ignored during the spell check.

The Spelling dialog box is displayed for every misspelled word in your worksheet. When Spell Checker does not find any more misspelled words in your worksheet, it displays the message The Spelling Check Is Complete for the Entire Sheet. Click the OK button to close the message box.

If the active cell at the time of invoking Spell Checker is in the middle of the worksheet, Spell Checker checks for spelling errors from that point on to the end of the worksheet. A message box showing the message Do You Want to Continue Checking at the Beginning of the Sheet? is displayed. Click Yes to continue spell checking and No to cancel it.

The AutoCorrect feature of Excel is another tool that helps you to make your worksheet error-free. This feature automatically corrects the spelling errors as you type the data in your worksheet. It helps save you the time and effort involved in proofreading the entire worksheet. For example, if you type a lowercase letter at the beginning of a sentence, the AutoCorrect feature automatically reverses the case of the first letter of the first word in the sentence.

Illustration 3-4 shows the AutoCorrect dialog box. This dialog box can be invoked by selecting AutoCorrect from the Tools menu.

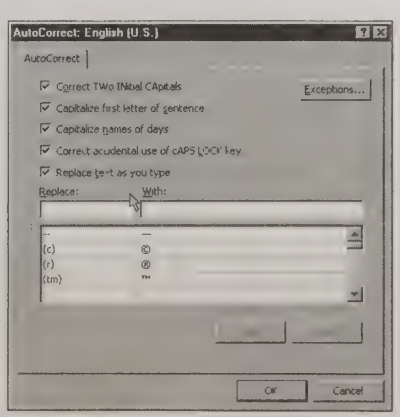


Illustration 3-4: The AutoCorrect dialog box

Sometimes, you may not want Excel to correct abbreviations or certain terms that contain mixed capitalization. You can add these exceptions to the Exceptions dialog box. This dialog box can be invoked by clicking the Exceptions box in the AutoCorrect dialog box.

Activity C-2: Checking Spelling

Do This	Consider the Following
1 Select cell **D13** in the JanRep worksheet.	This cell contains a misspelled word.
2 Select **Tools**, **Spelling**.	The Spelling command can be selected from the submenu of the Tools option on the menu bar. The Spelling dialog box is displayed.
3 Click **total** in the Suggestions box.	The Suggestions box displays various suggested spellings for the misspelled words.
4 Click **Change**.	This changes the spelling of *totall* to *total*. A message box is displayed informing you that the spell check is complete.
	
5 Click **OK**.	The message box is closed.

MODULE SUMMARY

Editing Data in a Worksheet

In this module, you learned about the various editing features available in Excel.

You learned to copy data from one cell to another by using the Standard toolbar and the Clipboard toolbar. You also learned to move data across cells by using Edit menu options and by using the drag-and-drop method.

In addition, you learned how to modify and delete the contents of a cell.

Finally, you learned to use tools such as Spell Check and AutoCorrect for proofreading the worksheet.

Exercise: Copying and Moving Data Across Cells and Proofreading a Document

Time to Complete: 10 minutes

1. Open the School workbook and select the Marks worksheet. Using the Clipboard toolbar, copy the student names and marks to the G and H columns of the worksheet.
2. Using the drag-and-drop technique, move the school name above the location where you copied the student names and marks.
3. Spell check the worksheet.

MODULE 4

Working with Worksheets

Module Time: 45 minutes

Objectives

To complete your project well, you should manage the worksheets of your workbook efficiently. In this module, you will learn to create and manage the worksheets in your workbook. Complete this module, and you will know how to

A Add and delete cells in a worksheet

B Add and delete rows and columns in a worksheet

C Add, delete, and rename worksheets in a workbook

D Change worksheet views

Topic A: Editing Worksheets

Adding and deleting cells, rows, and columns are some of the activities that you will perform frequently to organize data in your worksheets. You may also need to create new worksheets in your workbook to categorize your data. For example, you may want to have the sales reports for the different months in different worksheets.

Inserting and Deleting Cells in a Worksheet

Inserting and deleting cells in a worksheet is a simple process. When you insert a cell, you can shift the adjoining cells either toward the right or down. Similarly, when you delete a cell, the surrounding cells shift to fill in the space.

To insert a cell in a worksheet

1. Select a cell in the worksheet.
2. Select the Insert option on the menu bar.
3. Click the Cells command from the submenu displayed. Illustration 4-1 shows the Insert dialog box that is then displayed.
4. In the Insert dialog box, choose the direction in which the selected cell is to be shifted. You can also shift the entire row or column by choosing appropriate options.
5. Click the OK button to close the dialog box.

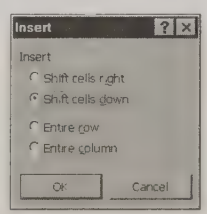


Illustration 4-1: The Insert dialog box

You may need to delete a cell from the worksheet. To delete a cell

1. Select the cell or the group of cells that you want to delete.
2. Select Edit, Delete to display the Delete dialog box.
3. The Delete dialog box will be displayed. In this dialog box, you can choose to shift the adjoining cells up or down. You can also delete the entire row or column by choosing the appropriate options from the Delete dialog box. Illustration 4-2 shows the Delete dialog box.
4. Click the OK button.

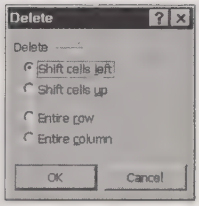


Illustration 4-2: The Delete dialog box

You will notice that the selected cell or the range of cells is deleted. You can also observe that the surrounding cells shift in the specified direction to fill the gap created by the deleted cells.

Activity A-1: Inserting and Deleting Cells in a Worksheet

Do This	Consider the Following
1 Open the JanRep worksheet in the Sales workbook and select cell **B5**.	You are going to insert a cell before cell B5.
2 Select **Insert**, **Cells**.	The Insert dialog box is displayed.
3 Select the **Shift Cells Right** option and click **OK**.	The original cell contents of cell B5 are shifted to the right.
4 Highlight cell **C5** in the JanRep worksheet.	This is the cell that is to be deleted.
5 Select **Edit**, **Delete**.	The Delete dialog box is displayed. You can select the direction in which you want to shift the surrounding cells.
6 Select the **Shift Cells Up** option and click **OK**.	Observe the highlighted cell being deleted and subsequently, the adjoining cell moving toward the left to fill the gap.

Inserting and Deleting Rows and Columns in a Worksheet

Sometimes, you would like to insert an entire row or column instead of inserting a single cell or a group of cells. Working with rows and columns

is similar to working with a large number of cells. Excel inserts new rows above the current row and inserts new columns to the left of the current column. To insert a row or a column

1 Select the row or column before which you want to insert a row or column.
2 Select Insert, Rows or Insert, Columns on the menu bar.

You can observe the rows or columns being inserted in the preferred location.

If you want to insert multiple rows or columns, select the same number of rows or columns you want. For example, if you want to insert three rows, then select three rows at the point where you want to insert them.

Activity A-2: Inserting and Deleting Rows and Columns in a Worksheet

Do This	Consider the Following
1 In the JanRep worksheet, select the tenth row.	You can select an entire row by clicking the row heading.
2 Select **Insert**, **Rows**.	A new row is inserted above the selected row.
3 Select the eighth row in the worksheet.	This is the row to be deleted.
4 Select **Edit**, **Delete**.	The row is deleted and the row below shifts up to fill in the gap.

Adding, Deleting and Naming Worksheets in a Workbook

If you need to categorize data and store it, you can place each category of data in a separate worksheet. You may need to create new worksheets in your workbook. Worksheets in your workbook may be deleted, too. In a workbook, you can create or delete as many worksheets as you want. When you open a new workbook, three worksheets are displayed. By default, these worksheets are named Sheet1, Sheet2, and Sheet3. The names of the worksheets are displayed on the tab representing the worksheet. You can rename the worksheet so that the name is descriptive of the contents.

To make a worksheet active, click the tab representing the worksheet. If there are too many worksheets in your workbook or if the names of the worksheets are too long, you may not be able to see all the worksheet tabs. In such a situation, you can make use of the worksheet scroll arrow buttons, which are located to the left of the first visible tab. You can use these buttons to scroll through the tab names. When you locate the sheet name of your choice, click its tab to make it active.

To insert a new worksheet in your workbook

1 Click the tab of the worksheet before which you want to insert a new worksheet.

2 Select Insert, Worksheet from the menu bar.

You can also insert a worksheet by invoking the context-sensitive menu. Right-click a worksheet tab and select the Insert option from the menu.

You can observe that a new worksheet is inserted in your workbook, which has the default name set by Excel. You would like to change the name of your worksheet to a name of your choice. To do so

1 Double-click the tab of the worksheet whose name you want to change.

2 Type a new name for the worksheet.

3 Press the Enter key on the keyboard to complete the operation.

You would like to delete worksheets that you do not require. To do so

1 Click the tab of the worksheet that you want to delete.

2 Select Edit, Delete Sheet from the menu bar. A message box showing the message The Selected Sheet(s) Will Be Permanently Removed is displayed.

3 Click OK to complete the operation or click Cancel to cancel it.

Observe that the selected worksheet is removed from your workbook.

You can also delete or rename worksheets by invoking the context-sensitive menu on the tab of the worksheet and by selecting the appropriate option.

Activity A-3: Adding, Deleting, and Naming a Worksheet in a Workbook

Do This	Consider the Following
1 Select the **FebRep** worksheet from the Sales workbook.	You will add a worksheet to the Sales workbook.

Activity A-3: Adding, Deleting, and Naming a Worksheet in a Workbook

2 Select **Insert**, **Worksheet**.	A new worksheet is inserted in your workbook. By default, your worksheet is named as Sheet4 in Excel.
3 Double-click the tab of the newly inserted worksheet.	You can change the name of the worksheet.
4 Type **MarRep**.	The name of the worksheet is changed to MarRep.
5 Select **Edit**, **Delete Sheet** to delete the DecRep worksheet.	A message box informs you that the selected sheet(s) will be permanently deleted.
6 Choose **OK**.	This completes the delete operation. You permanently removed the worksheet from the workbook.

Topic B: Viewing Worksheets and Workbooks

When you are working with a large amount of data, you may use several worksheets or even several workbooks to organize your data. You may need to view more than one workbook at the same time. You may also want to view a larger area of the worksheet.

Changing a Worksheet View

You can change the view of your worksheet by zooming in or zooming out. Zooming out helps you view a larger area of your worksheet. If you choose to zoom in, you will be able to view a smaller work area, but the contents of the cells are more clearly visible. To change the view of your worksheet, select the View, Zoom menu option. The Zoom dialog box is displayed. It displays various percentages by which you can magnify your screen. It also has a Custom selection text box in which you can specify magnification levels ranging from 10 percent to 400 percent. You will also find a Fit Selection option. Using this option, you can magnify a highlighted block of cells so that all its cells fit in the window. Illustration 4-3 shows the Zoom dialog box.

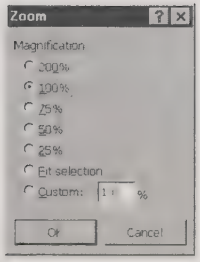


Illustration 4-3: The Zoom dialog box

Click the OK button in the dialog box to complete the operation.

You can adjust the zoom magnification of the worksheets whenever you need to do so.

In Normal view, screen elements such as the title bar and the toolbar buttons reduce the viewing area of the worksheet. In such a situation, you can switch to a Full Screen mode. In this mode, you will be able to see the worksheet with the menu bar, sheet tabs and a Close Full Screen button. You can return to the Normal mode by clicking on the Close Full Screen button. Illustration 4-4 shows a worksheet in Full Screen mode.

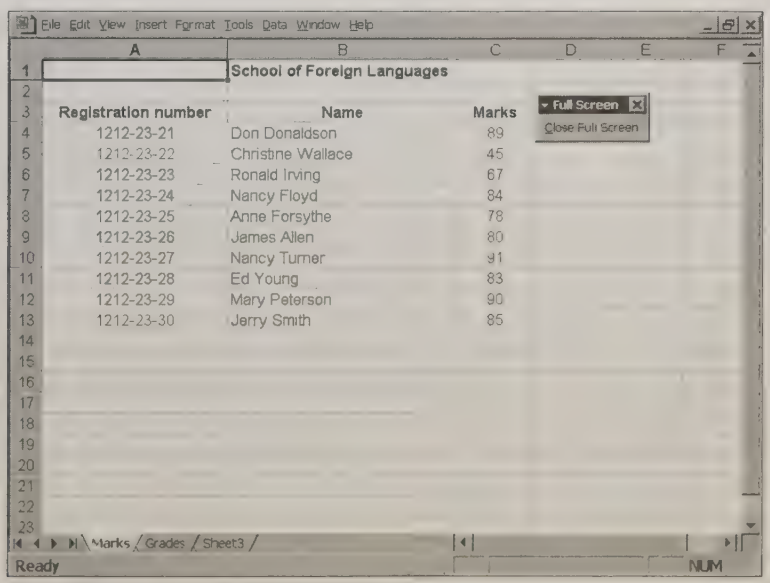


Illustration 4-4: A worksheet in Full Screen mode

Activity B-1: Changing a Worksheet View

Do This	Consider the Following
1 Select **View**, **Zoom** in the JanRep worksheet.	The Zoom dialog box is displayed, which shows various magnification levels.
2 Select the **150%** option and click **OK**.	The screen is magnified by 150 percent.
3 Select **View**, **Full Screen**.	This switches the screen to Full Screen mode. A Full Screen dialog box with the Close Full Screen button is displayed. Observe that the title bar and the toolbars are removed from the screen.
4 Click **Close Full Screen**.	Normal view is restored.

Viewing Multiple Workbooks

You learned to work with multiple worksheets in a workbook. Sometimes, you may need to keep multiple workbooks open. When you are working with multiple Excel workbooks, navigating between them may be a tedious operation. To resolve this problem, Excel has features that help you view multiple workbooks on the same screen. To arrange multiple open workbooks

1 Open the workbooks you need.
2 Select Window, Arrange.
3 The Arrange Windows dialog box appears as shown in Illustration 4-5.
4 Choose the appropriate option and click the OK button to close the dialog box.

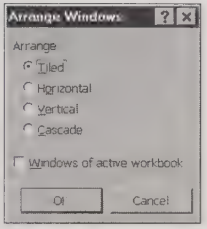


Illustration 4-5: The Arrange Windows dialog box

The following table describes the various options available in the Arrange Windows dialog box.

Option	Description
Tiled	The open workbooks are arranged in individual tiles.
Horizontal	The workbooks are arranged in horizontal strips.
Vertical	The workbooks appear in vertical strips.
Cascade	The workbooks are reduced in size and are arranged one above another in a cascade.
Windows of active workbook	This option is used when you want to display multiple worksheets of the active workbook.

To view multiple worksheets of the active workbook on the same window, choose Window, New Window from the menu bar. You will find yourself in a new window. In this window, select the worksheet you want to view. Repeat the same step for each sheet you want to view. Choose the Arrange command from the Window option on the menu bar. Select the Windows of Active Workbook option from the Arrange Window dialog box. The worksheets of the active workbook will be arranged in the same window.

Activity B-2: Viewing Multiple Workbooks

Do This	Consider the Following
1 Open workbooks Sales and Sales99.	You are going to arrange these workbooks in the same window.
2 Select **Window**, **Arrange**.	The Arrange Windows dialog box is displayed.
3 Select the **Vertical** option in the Arrange Windows dialog box and click **OK**.	Observe that the workbooks are arranged in vertical strips.

MODULE SUMMARY

Working with Worksheets

In this module, you learned how to edit worksheets by inserting and deleting cells, rows, and columns.

Next, you learned how to add, delete, and name the worksheets in your workbook.

Finally, you learned how to change worksheet views.

Exercise: Inserting Cells, Rows, Columns, and Worksheets

Time to Complete: 10 minutes

1 Open the School workbook and select the Marks worksheet. Insert a cell after the school name to enter the batch code.

2 Remove the column that displays the grade of the students.

3 Add a new worksheet to the workbook and rename it Grades.

MODULE 5

Preparing and Printing Worksheets

Module Time: 45 minutes

Objectives

The workbooks you create in Excel will usually be shared electronically. Sometimes, however, you may need to print your worksheets. In this module, you will learn different printing techniques and options in Excel to customize the appearance of the printed worksheet. Complete this module, and you will know how to

A Use the Page Setup options to set margins and paper specifications

B Create headers and footers in your worksheet and control pagination

C Print worksheets, workbooks, and selected areas of a worksheet

Topic A: Modifying the Page Setup for Printing

After you create and edit your workbooks, you may need a printed copy of the worksheets. In Excel, you can print your worksheets by using simple printing procedures. You can enhance the look of the printouts by using the various page setup options that Excel provides. You can add or remove headers, footers, and page breaks. You can also set the paper size, orientation, and page margins before printing the worksheet and print the worksheet with horizontal and vertical gridlines.

Before you actually print the worksheet, you can preview it by using the Print Preview option that you can access from the File menu. Using this option, you display the worksheet exactly as it will look when it is printed. Another way of accessing Print Preview is to click the Print Preview button on the Standard toolbar. Illustration 5-1 shows the Print Preview screen.

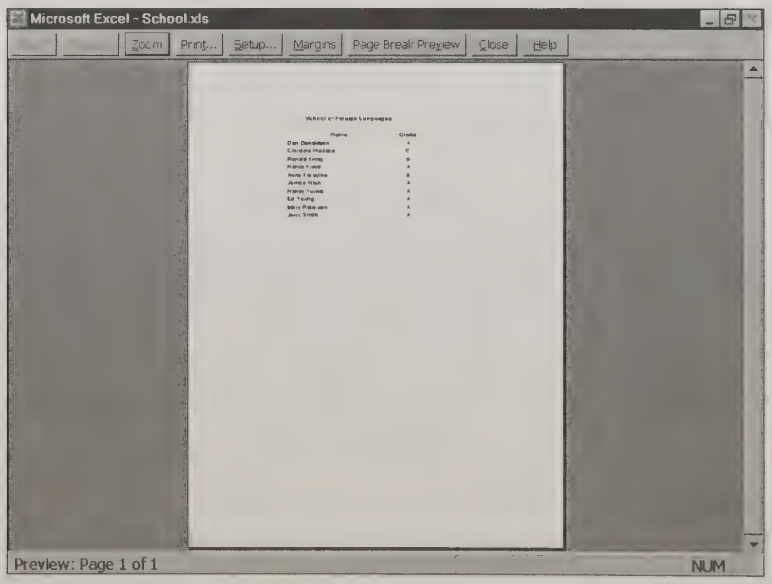


Illustration 5-1: The Print Preview screen

Setting Paper Size and Orientation

You can control many aspects of how your worksheets will print by using the Page Setup dialog box. The Page Setup dialog box can be invoked by

selecting File, Page Setup on the menu bar. You can specify the orientation of the printed page as either Landscape (wide) or Portrait (long). The *Landscape orientation* option prints the worksheet such that the long edge of the paper is at the top of the page. The *Portrait orientation* option prints the worksheet in such a way that the short edge of the paper is at the top of the page. You can indicate the size you want your worksheet to be printed. Illustration 5-2 shows the Page Setup dialog box.

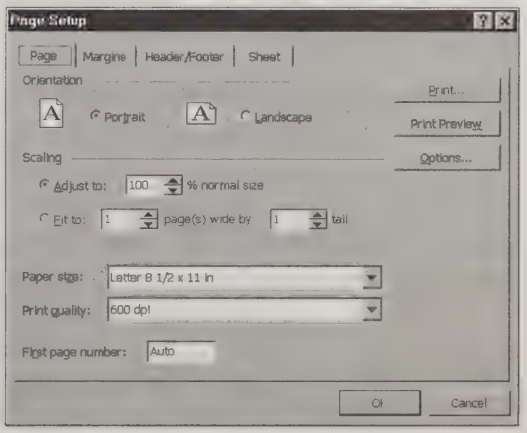


Illustration 5-2: The Page Setup dialog box

In the Page setup dialog box, you need to select the Page tab. After you select the option for paper size and orientation, click the OK button.

Activity A-1: Setting Paper Size and Orientation

Do This	Consider the Following
1 Open the School workbook and select the **Marks** worksheet.	This is the worksheet to be printed on A5 size paper with horizontal orientation.
2 Select **File**, **Page Setup**.	The Page Setup dialog box is displayed.
3 Select the **Page** tab in the Page Setup dialog box.	You can select a tab by clicking it.
4 Choose the **Landscape** option button from the Orientation group.	This specifies that the orientation of the page will be horizontal.

Activity A-1: Setting Paper Size and Orientation

5 Choose the **Legal** option from the Paper Size drop-down list.	This specifies that the paper size is 8 1/2 × 14 inches.
6 Select **Print Preview**.	The Print Preview screen is displayed.
7 Click **Close**.	The Print Preview screen is closed and Normal view is restored.

Setting Page Margins

Margins are the distance between your data and the edge of the printed page. Excel presets the top and bottom margins at 1 inch and the left and right margins at 3/4 inch. You can adjust the margins for the top, bottom, left, and right sides of a page. To do so

1. Select File, Page Setup to display the Page Setup dialog box.
2. Select the Margins tab. Illustration 5-3 shows the Margins tab of the Page Setup dialog box.
3. Enter the measurements for the top, bottom, left, and right margins in the respective text boxes.
4. Click Print Preview to show a preview of the worksheet before printing.
5. Click OK to close the Print Preview screen.

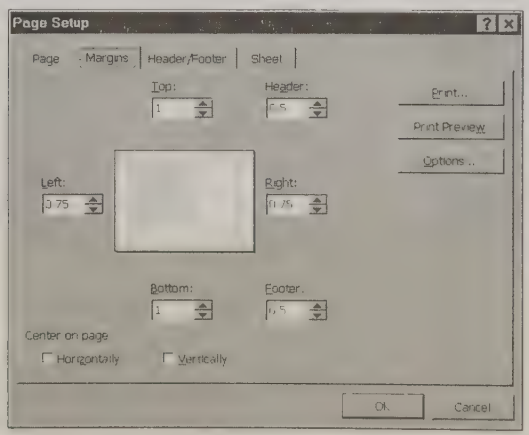


Illustration 5-3: The Page Setup dialog box showing the Margins tab

Activity A-2: Setting Page Margins

Do This	Consider the Following
1 Open the Marks worksheet.	This is the worksheet to be printed.
2 Select **File**, **Page Setup** from the menu bar.	Observe the Page Setup dialog box.
3 Click the **Margins** tab in the Page Setup dialog box.	Notice the current margin settings in the Margins tab.
4 Change the left margin setting to **0.5** inches by clicking the up arrow once in the Left box.	You have set the left margin to 0.5 inches.
5 Change the right margin setting to **0.5** inches by clicking the up arrow once in the Right box.	You can adjust the measurement to a maximum of 100 inches.
6 Click **Print Preview**.	You can preview the worksheet in the Print Preview screen.
7 Click **Close**.	You switch to Normal view from the Print Preview screen.

Inserting and Removing Page Breaks

When you print a worksheet, Excel divides your worksheet into two or more pages if the data does not fit into a single page. Excel places the page breaks based on the current page dimensions, margins, cell widths, and heights. You will notice that the page break is always placed at the beginning of a column so that the information contained in a cell is not split between two pages.

If you find that the automatic page breaks placed by Excel are not suitable for your worksheet, you can set manual page breaks. Manual page breaks have to be removed manually. If additional page breaks are added to the worksheet, the existing page breaks are not affected.

You can view the page breaks by switching to Page Break Preview mode. The *Page Break Preview* mode helps you view and adjust the print area and page breaks quickly. To do so, select View, Page Break Preview from the menu bar.

A Welcome dialog box is displayed and the Page Break Preview appears on the screen. Illustration 5-4 shows the Welcome to Page Break Preview dialog box. Illustration 5-5 shows the Page Break Preview.

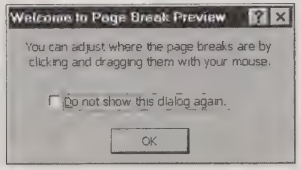


Illustration 5-4: The Welcome to Page Break Preview dialog box

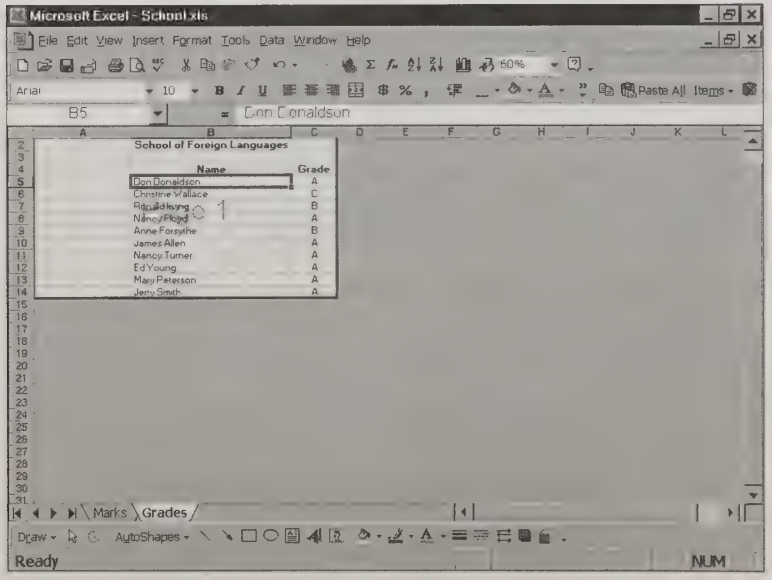


Illustration 5-5: The Page Break Preview screen

Manual page breaks are shown in solid blue lines, and automatic page breaks are shown in dashed blue lines. In Page Break Preview, you can drag the existing page breaks to new locations.

To insert manual page breaks, click the cell, row, or column where you want to place a break. Choose the Page Break command from the Insert option on the menu bar. A page break is inserted at the desired location.

To remove manual page breaks, select the cell, row, or column that was used to create the break and choose the Remove Page Break option from the Insert menu.

Activity A-3: Inserting and Removing Page Breaks

Do This	Consider the Following
1 Select column **E** in the Marks worksheet.	This is the location where a page break will be placed.
2 Select **Insert**, **Page Break**.	Notice a dashed line that indicates a page break.
3 Select **File**, **Print Preview**.	You can see the preview of the changes you made to the worksheet.
4 Click **Close**.	You can switch to the worksheet's Normal view.
5 Select **Insert**, **Remove Page Break**.	Observe that the page break has been removed.

Inserting a Header and Footer

Headers and footers are lines of text that can be printed at the top or bottom margins of every page. They are used to include information that identifies the worksheet. For example, you can include the name of your company in the header. In footers, you can place information such as the page number, the document's date of creation, and the name of the workbook containing the worksheet.

To place headers and footers

1. Choose File, Page Setup. The Page Setup dialog box appears.
2. Choose the Header/Footer tab from the Page Setup dialog box. Illustration 5-6 shows the Header/Footer tab of the Page Setup dialog box.
3. Select a header from the Header drop-down list.
4. Select a footer from the Footer drop-down list.
5. Click OK.

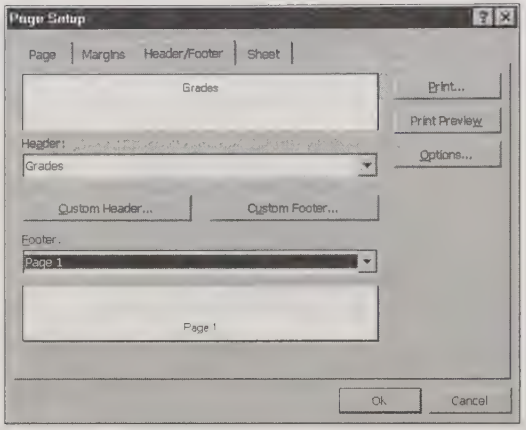


Illustration 5-6: The Page Setup dialog box showing the Header/Footer tab

If you find that the default headers and footers provided are not appropriate for your worksheet, you can create custom headers and footers by clicking the Custom Header or Custom Footer button in the Page Setup dialog box. Illustration 5-7 shows the dialog box that is displayed when you click the Custom Header button.

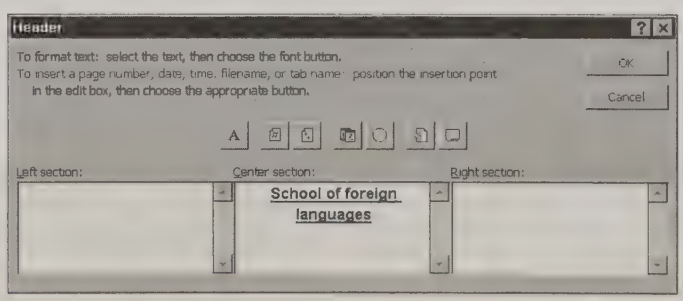


Illustration 5-7: The Header dialog box

In the Header dialog box, you can enter text in the Left, Center, or Right Section and format it. Apart from text, you can enter the current date and time, the page number, the total number of pages, and the name of the worksheet and workbook. You will find similar options in the Footer dialog box.

Activity A-4: Inserting a Header and Footer

Do This	Consider the Following
1 Select **File**, **Page Setup**.	Observe the Page Setup dialog box that is displayed.
2 Click the **Header/Footer** tab.	You see the default headers and footers in their respective drop-down lists.
3 Select **Marks** from the Header drop-down list.	Observe that Marks appears in the Header text box.
4 Select **Page 1 of ?** from the Footer drop-down list.	Observe that 1 of ? appears in the Footer text box.
5 Click **OK**.	When you print the worksheet, the header and footer that you set are also printed.

Setting the Gridlines Option

When you print a worksheet, the gridlines that separate the cells when you are creating a worksheet are not normally printed. You can print the worksheet with gridlines if you want to, though. To do so

1. Select File, Page Setup. The Page Setup dialog box is displayed.
2. Select the Sheet tab. Illustration 5-8 shows the Sheet tab of the Page Setup dialog box.
3. In the Print section, click the Gridlines checkbox.
4. Click Print Preview. The Print Preview screen is displayed.
5. Click Close to return to Normal view.

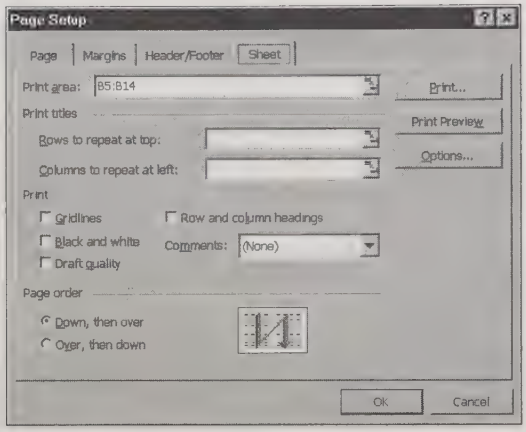


Illustration 5-8: The Page Setup dialog box showing the Sheet tab

Activity A-5: Setting the Gridlines Option

Do This	Consider the Following
1 Select **File**, **Page Setup**.	The Page Setup dialog box is displayed.
2 Select the **Sheet** tab from the Page Setup dialog box.	The Sheet tab displays various sections such as Print Area, Print Titles, Page Order and Print.
3 Mark the **Gridlines** checkbox in the Print section.	This option prints horizontal and vertical gridlines on the worksheet.
4 Click **Print Preview**.	You can view the worksheet with gridlines in the Print Preview screen.
5 Click **OK**.	This closes the Print Preview screen.

Topic B: Printing Worksheets

You have learned to use Page Setup to enhance the appearance of your worksheet before printing. You will now learn to print worksheets and selected areas of a worksheet. To print a worksheet, select the File, Print menu option. The Print dialog box is displayed.

The following table describes the various sections in the Print dialog box.

Section	Description
Printer	This section contains the Printer details and properties.
Print Range	This section allows you to specify the range of pages to be printed.
Print What	This section is where you specify whether you want to print the whole workbook, specified sheets, or the selected range.
Copies	This section is where you specify the number of hard copies you need. If you are printing multiple copies, you can organize the numbered pages by clicking the Collate checkbox. A complete copy of the document is printed before the first page of the next copy is printed.

You can also click the Print button on the Standard toolbar to print your worksheet. When you do so, Excel does not display the Print dialog box, and your worksheet is printed immediately.

Printing Multiple Worksheets of a Workbook

You can print multiple worksheets from your workbook. Before printing, you need to select the sheets you want to print. The tab representing the active worksheet in your workbook appears white and the other tabs appear gray. To select multiple worksheets from a workbook

1 Hold down the Ctrl key on the keyboard and click the sheets that need to be printed. You notice that the selected worksheets in your workbook appear white.

2 Choose File, Print to print the selected worksheets.

You can deselect the selected worksheets by clicking them again while holding down the Ctrl key.

Activity B-1: Printing Multiple Worksheets of a Workbook

Do This	Consider the Following
1 Select the **Grades** worksheet of School.xls by holding down the Ctrl key on the keyboard and clicking the tab representing the Grades worksheet.	Grades and Marks both become active worksheets.
2 Click  on the Standard toolbar.	The worksheets are shown in the Print Preview screen.
3 Click **Next** to see the preview of the next sheet.	In this screen, you can have a magnified view of the worksheet by clicking the Zoom button.
4 Click **Close**.	This switches the screen back to the normal mode.
5 Click  on the Standard toolbar.	The Print dialog box is displayed.
6 Click **OK**.	The dialog box is closed.
7 Click the tab representing the Grades worksheet by pressing the Ctrl key on the keyboard.	The Grades worksheet is deselected.

Printing a Selected Area of a Worksheet

Sometimes, you may need to print only a portion of the worksheet. You can print a selected area of your worksheet by using the Print Area feature of Excel.

After you select the range of cells that are to be a part of the print area, choose File, Print Area, Set Print Area. Excel places automatic page breaks around the print area, which are represented by dotted lines on the border of the selected print area. Illustration 5-9 shows the automatic page breaks around the selected area.

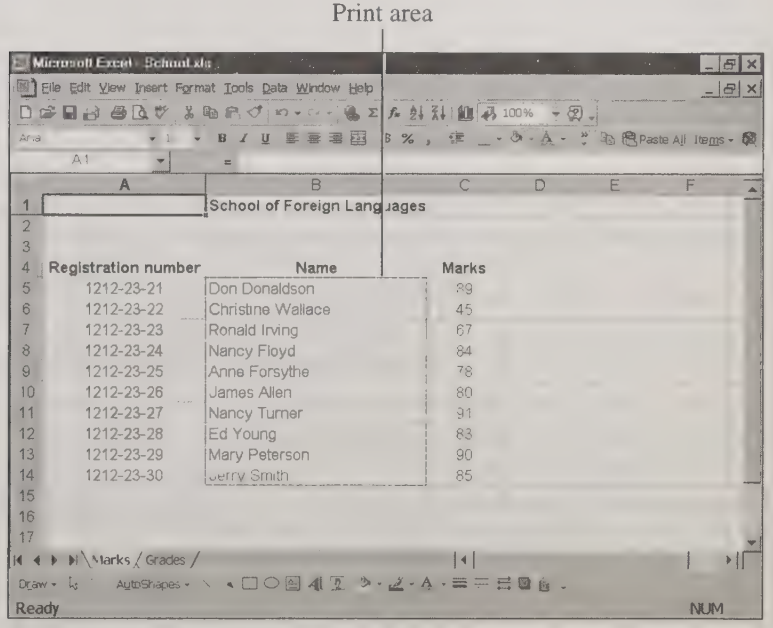


Illustration 5-9: The print area surrounded by automatic page breaks

You can remove the page breaks by choosing File, Print Area, Clear Print Area.

Activity B-2: Printing a Selected Area of a Worksheet

Do This	Consider the Following
1 Select the cell range **B6** to **B13**.	This is the range that is to be printed.
2 Select **File**, **Print Area**, **Set Print Area**.	Observe the automatic page breaks placed around the selected print area.
3 Click the **Print Preview** button on the Standard toolbar.	You can see the print area displayed in the Print Preview screen.

Activity B-2: Printing a Selected Area of a Worksheet

4 Click **Close**.	This closes the Print Preview screen.
5 Click the **Print** button on the Standard toolbar.	The Print dialog box is displayed.
6 Click **OK**.	The dialog box is closed.
7 Select **File**, **Print Area**, **Clear Print Area**.	The page breaks on the worksheet are cleared.
8 Close the workbook.	You need not save the changes to the workbook.

MODULE SUMMARY

Preparing and Printing Worksheets

In this module, you learned to control the appearance of the printed worksheet.

First, you learned to set the paper size, margins, and orientation of the worksheet by using the Page Setup dialog box.

Next, you learned to enter header and footer text in a worksheet. You observed that the gridlines in a worksheet could be printed, too.

Finally, you learned to print multiple worksheets of a workbook and a selected area of a worksheet.

Exercise: Setting the Margins and Printing Specific Areas of a Worksheet

Time to Complete: 10 minutes

1 Open the Sales.xls workbook. Print the JanRep worksheet with the left and right margins at 3/4 of an inch.

2 Print the JanRep and FebRep worksheets by issuing a single command.

3 Print the details of the first five items from the JanRep worksheet.

MODULE 6

Using Formulas and Functions

Module Time: 45 minutes

Objectives

Excel 2000 provides easy methods to solve mathematical problems and formulas. It also helps with different types of functions. Complete this module, and you will know how to

A Create a formula

B Use relative or absolute cell addressing in a formula

C Build a formula with functions

Topic A: Working with Formulas

Excel formulas are a powerful medium to handle mathematical problems in a worksheet. A *formula* is a cell entry that performs calculations on a set of values and returns the result of the calculation. By default, the cell displays the result of the calculation. Using formulas, you can perform quick calculations on both simple and complex problems. Excel formulas are also called equations.

Creating a Formula

An Excel formula has three essential elements: an equal sign, values or cell references to be used in calculations, and mathematical operators. The equal sign indicates that the entry in the cell is a formula. The mathematical operators decide the calculations to be performed.

Some mathematical operators that you can use to perform mathematical operations are listed in the following table.

Operator	Functionality
+	Addition
-	Subtraction
*	Multiplication
/	Division
=	Equal to
>	Greater than
<	Less than
<=	Less than or equal to
>=	Greater than or equal to
<>	Not equal to
%	Percentage

When you perform complex calculations, Excel follows an operator precedence that determines the order in which calculations are to be

performed. Generally, the order of precedence is multiplication, division, addition, and then subtraction.

For example, the formula =20+10*5 would perform multiplication operation first followed by addition. The result in this case would be 70, reached by adding 20+50. However, in a formula such as (50-10)*20, the operator precedence would be the operations enclosed in parentheses followed by the operations outside the parentheses. The result in this case would be 800, reached by multiplying 40*20.

You can create a simple formula effortlessly. You can enter a formula into a cell or on the Formula bar.

Activity A-1: Creating a Formula

Do This	Consider the Following
1 Open the workbook Activity.xls and select the worksheet **JanSal**.	You can select a new worksheet by clicking the worksheet tab.
2 Click cell **C13** in the Deduction column.	You can see that the selected cell has a thick rectangular border.
3 Type **=1000+250+80** and press ↵Enter.	Notice that the cell contains the result of the formula.
4 Click cell **D10** in the net salary column and click the Formula bar.	You can find the Formula bar above the worksheet area.
5 Type **=4000-1330** and press ↵Enter.	You can use the Formula bar to type a formula. The result is displayed in the current cell.
6 Select cell **D11**, type **=4000-(1000+250+80)**, and press ↵Enter.	You are calculating the net salary by using a single formula. Excel performs the operations enclosed within the parentheses first. Observe that the result in the current cell is the same as in cell D10.

Referencing Cells by Relative or Absolute Addressing

You learned about cell references in Module 1, "Understanding Excel 2000 Basics." *Cell references* are the row and column specifications of a

cell. When you use cell references in a formula, Excel searches for values in the referenced cells and performs calculations. Using cell references, you can build formulas in an effective way. To do so

1 Click a blank cell where the result is to be displayed.
2 Begin the formula with an equal sign.
3 Click the cell that contains a value. A dotted marquee appears around the value, as shown in Illustration 6-1.
4 Enter a mathematical operator.
5 Click another cell that contains a value.
6 Click the Enter button on the Formula bar or press the Enter key on the keyboard.

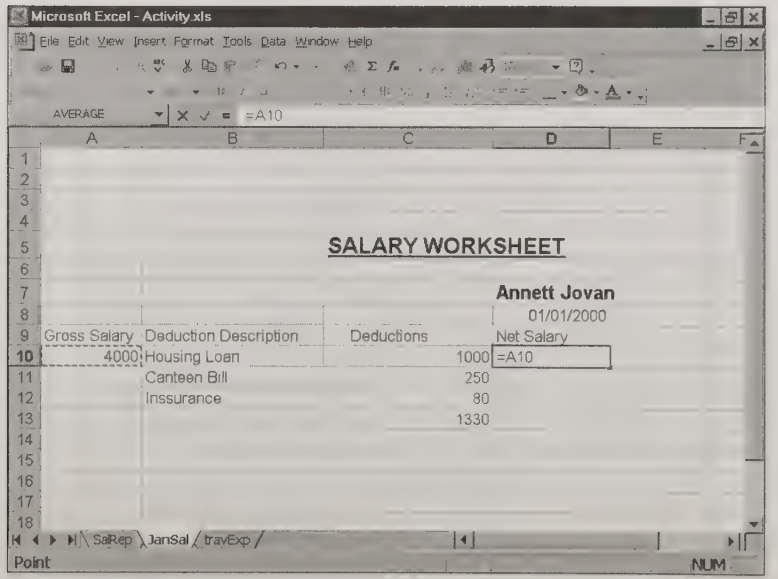


Illustration 6-1: The dotted marquee surrounding the cell currently referenced in the formula

You can also use references of the cells that exist in another worksheet or workbook.

The *AutoSum* button on the Standard toolbar allows you to calculate the sum of values in a range of cells. When you select the destination cell and click the AutoSum button, you will observe a marquee around the range of cells and the SUM formula in the destination cell. When you click the AutoSum button again, the total will be calculated and displayed in the destination cell automatically.

Named ranges of cells can also be used in Excel formulas. *Named ranges* are user-defined names of cell ranges that can be used in a formula instead of cell references. Consider this example. In your worksheet, you have a few values in cells D1 to D20 in the Sales tax column. When you need to include these values in a formula, you can use a common name, such as sales tax, to represent them instead of clicking and including all these values. This name is easier to remember and include than the lengthy cell references. Before you use a named range in a formula, you have to define it. To name a range of cells

1 Select the cell or range of cells to be named.

2 Select Insert, Name, Define to display the Define Name dialog box. Illustration 6-2 shows the Define Name dialog box.

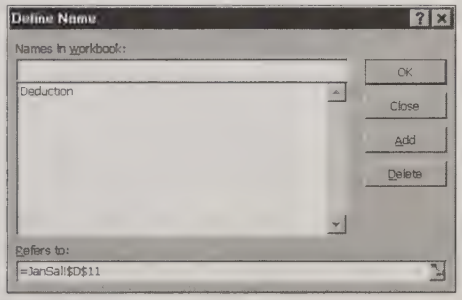


Illustration 6-2: The Define Name dialog box

You can type this name in a formula or choose Insert, Name, Paste to display the Paste Name dialog box as shown in Illustration 6-3. The name will be pasted in the formula.

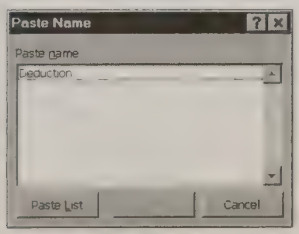


Illustration 6-3: The Paste Name dialog box

You may need to copy formulas to other cells in the worksheet. When formulas are copied, Excel mainly uses two types of cell referencing: relative cell referencing and absolute cell referencing. *Relative cell*

referencing is the default, whereby references to cells are relative to the position of the formula.

For example, you calculate the values of cells C1 through C7 in cell C8. You have another set of values in cells E1 to E7. Instead of calculating the sum of these values, you can copy the formula in cell C8 to cell E8. Here, Excel uses the relative referencing feature and the formula is changed in relation to the new position.

When you need to refer to constant values, relative referencing gives you inaccurate results. *Absolute referencing* is used to copy formulas from one cell to another when cell references need to be constant and should not change relative to their position. A $ symbol before a cell coordinate indicates to Excel that the cell coordinate is to be kept constant.

You use mixed referencing to keep either the row reference or the column reference constant in a formula. For example, the expression $D1 means that the column D remains constant while the row value changes relatively. The expression D$1 implies that the column value changes relatively and the row value remains constant. The expression D1 indicates that both the row and the column remain constant.

You can use the F4 function key on the keyboard to switch between relative and absolute references. The F4 key is a toggle that takes you through different combinations: absolute column and absolute row, relative column and absolute row, absolute column and relative row, and relative column and relative row.

Activity A-2: Referencing Cells by Relative and Absolute Addressing

Do This	Consider the Following
1 In the worksheet SalRep, click cell **E10** in the Basic Amount Column and type =.	You can type the = sign on the Formula bar instead of typing in the cell.
2 Click cell **C10** in the Price column.	You can see that the cell reference of the cell is added to the formula.
3 Type * and click cell **D10** in the Quantity column.	The cell reference is added to the formula. The symbol * is used to indicate that values are to be multiplied.

Activity A-2: Referencing Cells by Relative and Absolute Addressing

4	Press ↵Enter.	The result is displayed in the first cell of your Basic Amount column.
5	Click cell **G10** in the Total Amount column and type =.	You are now going to build a formula to calculate the total amount.
6	Click cell **E10** in the Basic Amount Column and type *.	Notice that the cell reference is added to the formula.
7	Click cell **F10** in the Sales Tax column and press ↵Enter.	The total amount is displayed in cell **G10**.
8	Copy the formula in cell **E10** to the cell range **E11** through **E15**.	Observe that the cell references in the copied formulas change relative to the cell position.
9	Click **G10** in the Total Amount column, type **=E10*F10**, and press ↵Enter.	Observe that the result is displayed in cell G10 of the Total Amount column.
10	Copy the formula in cell **G10** to cell **G11**.	Observe that the value does not change since Excel uses absolute referencing.
11	Select cell range **G12** through **G15** and select **Paste** from the Edit menu.	The values will be different in cell range G12 through G15 although you copy them. Excel uses the absolute referencing feature and calculates the correct values.

In a formula, you can use the cell references that exist in other worksheets and workbooks. To refer to a cell that exists in another worksheet of the current workbook, you can specify the name of the worksheet followed by an exclamation point and the cell reference. For example, Sheet1!C25 points to cell C25 on Sheet1 of the current workbook.

Instead of typing a lengthy cell reference, you can use mouse clicks to build a formula. This helps avoid errors in expressions. To build a formula using mouse clicks

1 Open the workbooks that contain the worksheets and cells you need to use.
2 Click the destination cell.
3 Click the Edit Formula button left of the Formula bar to display the formula palette. Illustration 6-4 shows the Formula palette.
4 Navigate through the worksheets and include cell references by clicking them.
5 Select Window and click the name of the other workbook. Illustration 6-5 shows the name of the workbook in the Window menu.
6 Navigate and include the references of worksheets and cells by clicking them.
7 When you finish, click the OK button on the Formula palette.

Illustration 6-4: The Formula palette

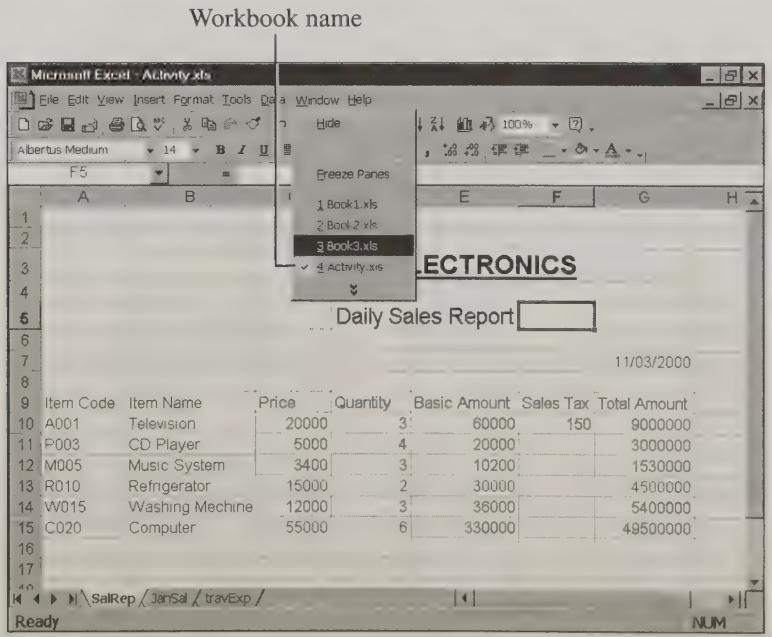


Illustration 6-5: The Window menu

Topic B: Working with Functions

Now you have learned to create and use simple formulas. Excel also provides you with a large set of functions. *Functions* are built-in tools in Excel that help you to analyze data and information. Excel functions help you to work out mathematical problems quickly and easily.

Understanding the Types of Functions

A function begins with the equal sign followed by a function name and the arguments that the function will use. Arguments are the values that you need to provide to a function to perform operations or calculations. For example, the function =SUM(C1:C6) returns the sum of values from cell range C1 through C6. Whereas some functions do not use arguments at all, other functions use more than one argument separated by commas.

There are several categories of functions available in Excel, such as Date and Time, Math & Trig, and Statistical. The following table will help you understand the functionality of some commonly used functions.

Function Name	Functionality
NOW	This is a date function that returns the current date and time. It takes no arguments.
DAY	This is a date function that takes a date as an argument and returns the day of the month, which is an integer ranging from 1 to 31.
MONTH	This is a date function that takes a date as an argument and returns the month of that date in the form of an integer.
YEAR	This is a date function that takes a date as an argument and returns the year in that date.
TIME	This is a function that takes hour, minutes, and seconds as arguments and returns a decimal value based on the values passed as arguments.
SUM	This is a mathematical function that adds the values in a range of cells.

Function Name	Functionality
ROUND	This is a mathematical function that rounds a number to a specified number of digits.
PRODUCT	This is a mathematical function that multiplies the values given as arguments and returns the product.
SQRT	This is a mathematical function that returns the square root of a number.
AVERAGE	This is a statistical function that returns the arithmetic mean of its arguments.
COUNT	This is a statistical function that returns the number of the cells containing numbers in the specified range of cells.
MAX	This is a statistical function that returns the largest value in the specified range of cells. The text in the range is ignored.
MIN	This is a statistical function that returns the smallest value in a set of values. The text in the set is ignored.
RANK	This is a statistical function that returns the rank of a number relative to other values in a specified set of values.

Using Functions in a Formula

In Excel, you build formulas containing worksheet functions by using the Formula palette. To do so

1. Click the cell in which you want to enter the formula.
2. Select the required function from the Functions drop-down list box. If the desired function is not present in the list box, you can select the More Functions option to invoke the Paste Function dialog box. Illustration 6-6 shows the Paste Function dialog box.
3. Select the appropriate option from the Paste Function dialog box. After you select a function, observe that text boxes for entering the

arguments of that function are displayed on the formula palette. Illustration 6-7 shows the formula palette with text boxes.

4 Enter the arguments for the function in the formula palette. You can observe that the formula result is also displayed on the formula palette.

5 Click OK to close the dialog box.

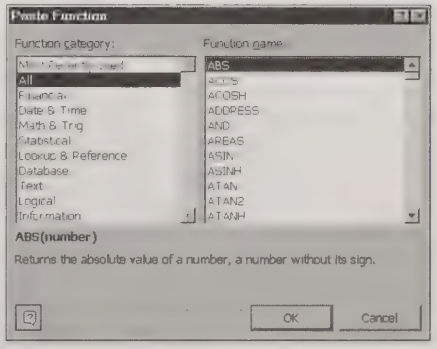


Illustration 6-6: The Paste Function dialog box

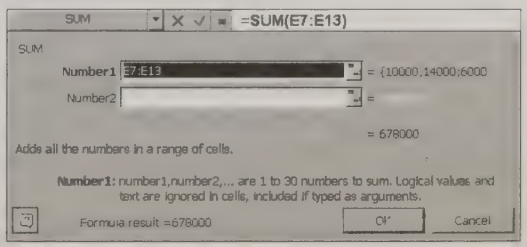


Illustration 6-7: The formula palette with text boxes

Alternatively, you can invoke the Paste Function dialog box by selecting Insert, Function from the menu bar or by clicking the Paste Function button on the Standard toolbar.

Activity B-1: Using Functions in a Formula

Do This	Consider the Following
1 In the Expenses worksheet, click cell **B10**.	You will use functions to calculate and display the sum of cells B5 through B9.

Activity B-1: Using Functions in a Formula

3 Click = on the Formula bar.	Observe that Formula Palette is displayed.
4 Select **SUM** from the Functions drop-down list.	Observe the description of the SUM function and its arguments in the formula palette. You can pass a maximum of 30 arguments to this function by typing them in the text boxes in the palette.
5 Observe that the cell range B5:B9 is displayed in the Number1 box by default.	This is the argument that you will be passing to the SUM function. You can change the cell range by editing the Number1 text box.
6 Click **OK**.	Observe the result of the formula in cell B10.

MODULE SUMMARY

Using Formulas and Functions

In this module, you learned how to perform mathematical calculations by using formulas and functions available in Excel.

You learned to create formulas and about relative and absolute cell referencing.

You also learned about built-in functions available in Excel. Finally, you learned to build formulas using functions by using the Formula palette and the Paste Function dialog box.

Exercise: Creating Formulas and Using Functions

Time to Complete: 10 minutes

1. Open the workbook Salary.xls and select the worksheet MyExp. Prepare a worksheet for your weekly expenditure. Calculate the daily expenditure and the total and average expenditure for the week by using formulas.
2. Perform the same calculations as above by using SUM and AVERAGE functions.

MODULE 7

Working with Charts

Module Time: 45 minutes

Objectives

You use charts in Excel workbooks to pictorially represent the trends in your data. Charts add a visual impact to the information you are representing. Excel provides tools to create and format charts. Complete this module, and you will know how to

A Understand the need for different types of charts

B Identify different elements of a chart

C Create and modify a chart

Topic A: Understanding Charts

When you represent data in a worksheet, you want the audience to appreciate the patterns and trends in the data. For example, when you present the annual sales report, you want the audience to understand the trend in sales for different quarters of the year. In such a situation, you can represent your data graphically in the form of charts. Using charts to represent data, you can express patterns in the data precisely.

Understanding the Types of Charts

In Excel, you can create different types of charts, depending on the data you want to represent.

The most common chart types are pie, column, bar, line, and area.

Pie Charts

If you want to represent a single category of data, use a pie chart. A *pie chart* depicts the proportional size of the elements that constitute the chosen category of data. For example, in an annual sales report, you would like to represent the contribution of each item to the total sales. Illustration 7-1 depicts the annual sales report for Dream Merchants Stores in the form of a pie chart. Notice that each wedge of the pie chart denotes the percentage of contribution of each item to the total sales.

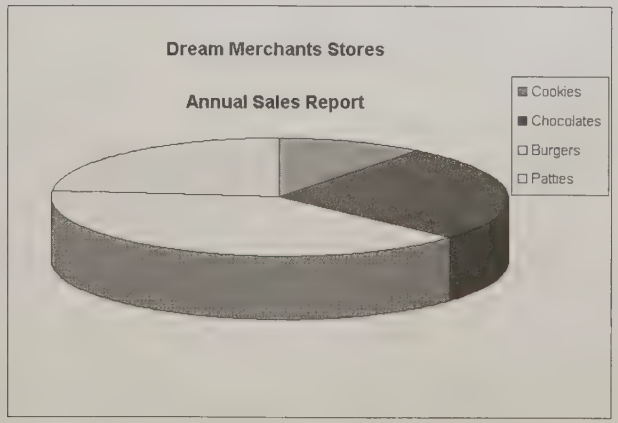


Illustration 7-1: A pie chart

Column Charts

A column chart depicts the comparison between more than one category of items. For example, you can use a column chart when you want to compare the total annual sales for a decade. Illustration 7-2 displays a column chart that depicts the trend in sales in Dream Merchants Stores for three years. Notice that the compared categories are represented on the X-axis and the values are organized on the Y-axis to depict the variation over a period of time. You can easily observe and compare sales in three years, and can view that sales were maximum in the third year and minimum in the first year.

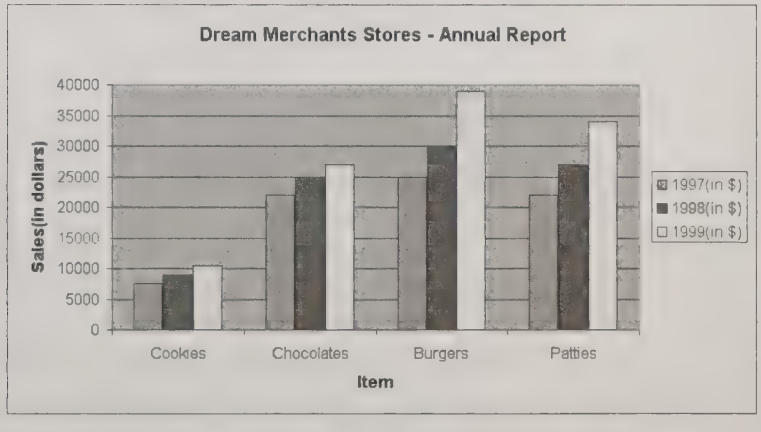


Illustration 7-2: A column chart

Bar Charts

Bar charts depict comparisons between the individual items represented in the chart. For example, you use a bar chart when you need to compare the total sales in various territories. Illustration 7-3 displays a bar chart that compares the total annual sales of Dream Merchant Stores in different territories. Notice that although bar charts are similar to column charts, bar charts focus on comparing values and do not emphasize time.

Bar charts are also called histograms.

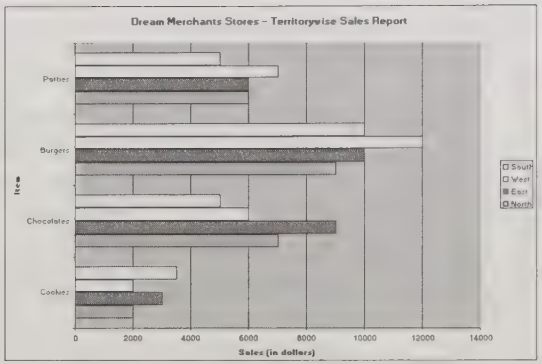


Illustration 7-3: A bar chart

Line Charts

Line charts help you to study the change of values over equal intervals of time. For example, you can represent how the sales of one or more items have changed over time. Illustration 7-4 displays a line chart that depicts the total annual sales in Dream Merchant Stores for the past three years in different territories. Notice that the lines represent the trend in sales over a specific interval of time.

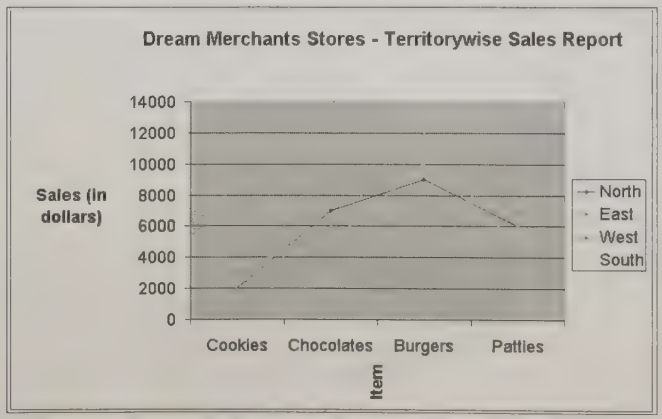


Illustration 7-4: A line chart

Area Charts

Area charts depict the amount of change in values over a period of time. In area charts, by displaying the sum of plotted values, you actually display how individual items combine to form a total. Illustration 7-5 displays an area chart representing the change in total annual sales of Dream Merchants Stores in different territories over the past three years.

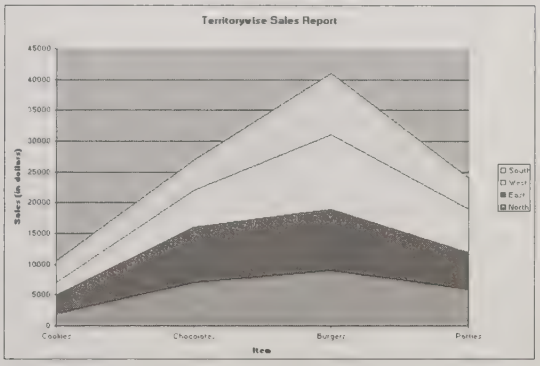


Illustration 7-5: An area chart

Understanding the Elements of a Chart

Before you learn to create charts, you need to be familiar with the various elements of a chart. Illustration 7-6 shows a sample chart.

The following table describes the different elements of a chart.

Element	Description
Data Series	A *data series* is a group of points that represent the plotted values in a chart. Each data series is represented by a different color in a chart.
Axis	An *axis* is the frame of reference against which values are plotted in a chart. Normally, data values are plotted against the vertical axis or Y-axis, and the categories are plotted against the horizontal axis or X-axis.

Element	Description
Axis Labels	The *labels* for X- and Y-axes are the headings of the columns in the worksheet that are represented in the chart.
Titles	The *title* of the chart is the text that describes the chart
Legend	*Legend* is the box that identifies the color or pattern representing a data series.
Gridlines	*Gridlines* are lines that extend from the axes across the plot area. These lines help you identify the value of a plotted point.
Plot Area	*Plot area* is the area that includes the data series and is surrounded by axes.

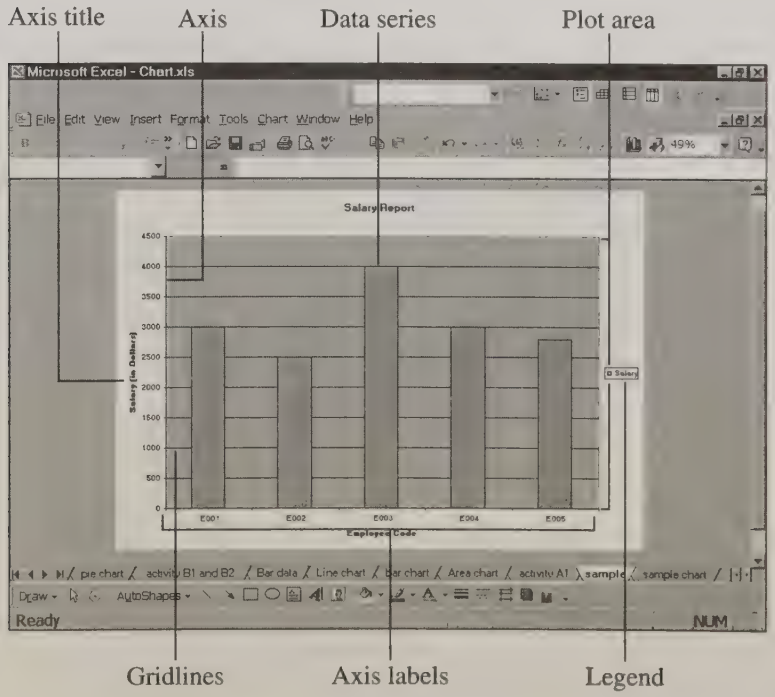


Illustration 7-6: A sample chart displaying the various elements

You will observe that the data values are plotted against the Y-axis and the categories (items) are plotted against the X-axis. You will also notice that the column headings form the axis titles. The columns in the chart represent a data series. You will notice that each data series in a chart is represented by a different color.

Activity A-1: Understanding the Elements of a Chart

Do This	Consider the Following
1 Open the workbook Sample.xls.	This is the workbook containing the sample data and a chart representing the same data.
2 Observe the data series.	Notice that the columns in the chart constitute a data series.
3 Observe the axis labels and titles.	Notice that Item and Sales (in dollars) form axes labels that are the column headings of the sample data.
4 Observe the legend and gridlines.	You can view a text box (legend) displaying Series1 at the right side of the chart. The legend helps you identify what each column represents. Using gridlines, you can find the exact value depicted by a data point.
5 Observe the chart title and the plot area.	Notice that the chart title is Sales Report for the Year 1999, which is the title of the sample report.

Topic B: Creating and Formatting Charts

Excel offers simple wizards, called Chart Wizards, to create various kinds of charts. The Chart Wizards guide you in creating a chart at every step.

Creating a Chart

You invoke the Chart Wizard by clicking the Chart Wizard button on the Standard toolbar. You can also choose Insert, Chart to invoke the Chart Wizard.

Illustration 7-7 shows the screen that is displayed when you invoke the Chart Wizard.

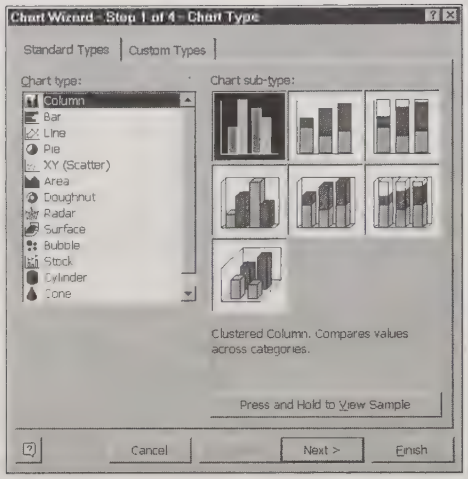


Illustration 7-7: The Chart Wizard dialog box

You need to go through four steps to create a chart by using Chart Wizard. First, you specify the kind of chart you need to create. You can either choose to create any one of the standard chart types or you can create a custom chart by selecting a suitable tab in the dialog box displayed by Chart Wizard.

You can also choose a chart subtype from the Chart Subtype gallery that appears in the dialog box. You can view a description of the chart type at the bottom-right corner of the dialog box when you select a chart subtype. You can view a sample chart by clicking the Press and Hold to View Sample button.

Second, you select the data range that you need to represent in the form of a chart. Excel displays a default range in the Data Range box. You can check the Preview window to view whether the selected range is correct. If you want to select the data range from the worksheet, click the Collapse Dialog button on the dialog box. Click the Collapse Dialog button again in the collapsed dialog box to maximize it. In this dialog box, you can also specify whether the data series has to be plotted from the rows or columns in your selection. Illustration 7-8 shows the second dialog box displayed by Chart Wizard.

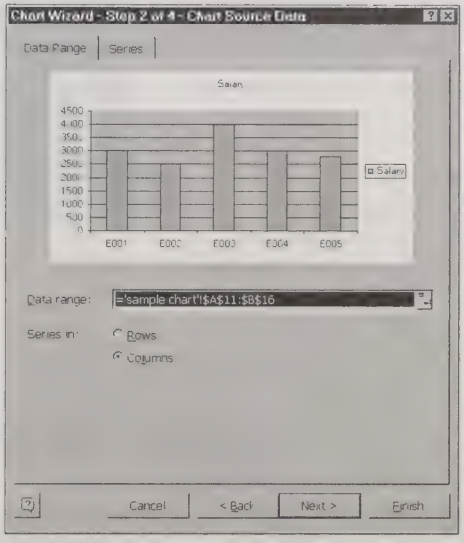


Illustration 7-8: The Chart Source Data dialog box of the Chart Wizard

Third, you select or deselect the standard options provided for the chart type you chose. You can add axes titles, chart title, gridlines, legend, and data labels by using the Chart Options dialog box. Illustration 7-9 displays the Chart Options dialog box.

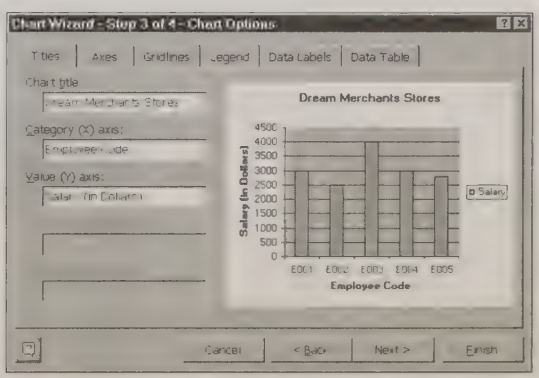


Illustration 7-9: The Chart Options dialog box

Finally, you select the location for your chart. You can either place the chart as an embedded object in any of the worksheets, or insert the chart in a separate chart sheet in the workbook. Illustration 7-10 displays the Chart Location dialog box.

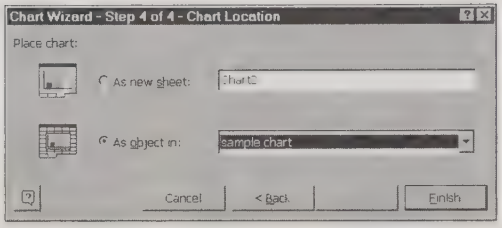
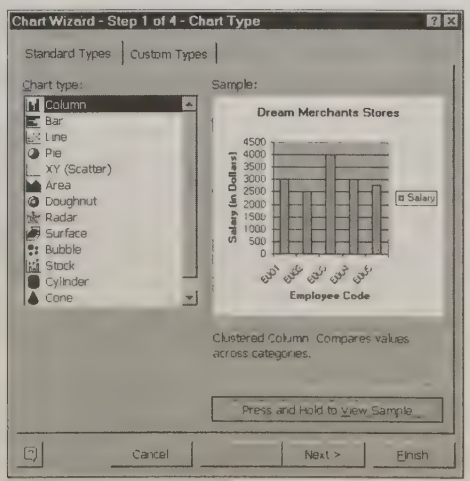


Illustration 7-10: The Chart Location dialog box

After completing the four steps of the Chart Wizard, you are left with a visually appealing chart.

Activity B-1: Creating a Chart

Do This	Consider the Following
1 Select the cells from **C4** through **E8** of the Activity B1 worksheet.	You can also specify the data range in step 2 of the Chart Wizard.
2 Click on the Standard toolbar.	The Chart Type dialog box of the Chart Wizard is displayed.
3 Select the **Standard Types** tab and select **Columns** in the Chart Type list box.	You observe a preview of the selected chart type by clicking the Press and Hold to View Sample button.



Activity B-1: Creating a Chart	
4 Click **Next**.	You can view the Chart Source Data dialog box.
5 Click the **Columns** option button.	You select this option to specify that the data series must be represented in columns.
6 Click **Next**.	You can view the Chart Options dialog box.
7 In the Titles tab, click the **Chart Titles** text box and type **Sales Report**.	You can specify the axes titles in this dialog box.
8 Click **As Object** and click **Finish**.	You can observe that the new chart is placed as an object in the same worksheet.

Formatting a Chart

After creating a chart, you may want to improve its lucidity by adding data labels, gridlines, and legends. You may also want to change the chart type.

The Chart toolbar is a useful tool containing buttons for creating and modifying a chart. You can customize and modify the chart anytime by using the Chart toolbar. You can change any element of the chart after its creation. You can use the Chart toolbar to modify legends, gridlines, the X-axis, the Y-axis, background, colors, and titles.

The following table describes the elements present in the Chart toolbar.

Element	Functionality
Chart Objects	You can select the element of the chart that you want to modify from this list box.
Format Selected Object	You click this button to format the selected chart element.
Chart Type	You click this button to change the chart type.

Element	Functionality
Legend	You click this button to add or remove a legend.
Data Table	You click this button to insert a data table in the chart.
By Row	You click this button to plot the data by rows.
By Column	You click this button to plot the data by columns.
Angle Text Downward	You click this button to slant the chart text toward the bottom.
Angle Text Upward	You click this button to slant the chart text toward the top.

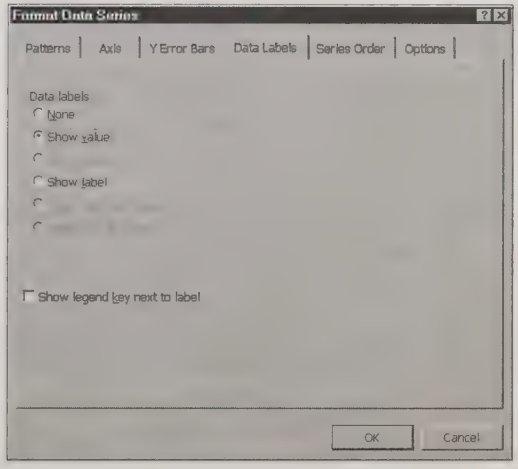
You can view the Chart toolbar by choosing View, Toolbar, Chart.

Activity B-2: Formatting a Chart

Do This	Consider the Following
1 Select the data series in the chart **Sales Report** in the worksheet **Activity B1**.	Notice that Series1 is selected in the Object box of the Chart toolbar.

Activity B-2: Formatting a Chart

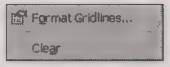
2 Click **Format Data Series** on the Chart toolbar.	Observe the Format Data Series dialog box.



3 Click the **Data Labels** tab in the Format Data Series dialog box.	Observe the options to add or remove the data labels to a data point.
4 Select the **Show Value** option button.	Notice data labels on the chart that display the value of the corresponding data point.
5 Click the **Series Order** tab in the Format Series dialog box.	Observe the name of the series being displayed in the Series Order list box.
6 Select **1998** in the Series Order list box.	You can change the series order by choosing the Move Up or Move Down option buttons.

Activity B-2: Formatting a Chart

7 Click **Move Down**.	Observe the preview of the change in the Preview window.
8 Click **OK**.	Observe that the dialog box is closed.
9 Select the gridlines on the chart and right-click to invoke the context-sensitive menu.	Notice the pop-up menu.
10 Select **Clear** from the context-sensitive menu.	Observe that the gridlines are removed from the chart.
11 Save and close the workbook.	You completed formatting a chart.



MODULE SUMMARY

Working with Charts

In this module, you learned to identify the elements of a typical chart and the various types of charts.

Next, you learned how to create a chart by using Chart Wizard.

Finally, you learned to modify the chart by adding or removing data labels, legends, gridlines, and titles.

Exercise: Creating and Formatting a Chart by Using the Chart Toolbar

Time to Complete: 10 minutes

1. Open the Marks worksheet in the School workbook and create a column chart depicting the performance of each student.
2. Using the Chart toolbar, remove legends and gridlines.

Task Reference

Use this reference to understand the procedures for performing tasks covered in this course. The tasks are organized by category for easy reference.

Understanding Excel 2000 Basics

How to Start Excel

1 Click the Start button.
2 Choose Programs.
3 Choose Microsoft Excel.

How to Display Toolbars

1 Click the View menu.
2 Select the Toolbars option.
3 Click the desired toolbar to display it.

How to Hide Toolbars

1 Choose the View menu.
2 Select the Toolbars option.
3 Click the checkbox of the toolbar that you want to hide.

Getting Help in Excel

How to Use Office Assistant

1 Invoke Office Assistant. When Office Assistant appears on the screen, left-click it.

2 Type the question for which you want help in the text box and click Search.
3 Click on the topic that is most closely related to your question to get the answer frame that displays the information you need.
4 Click the Close button to close the answer frame and return to your worksheet.

How to Customize Office Assistant

1 Right-click on Office Assistant to display the context-sensitive menu.
2 Click Choose Assistant.
3 Click the Back or Next buttons to cycle through available characters.
4 Select a character and click OK.

How to Get Help on a Specific Topic

1 Select Help, Microsoft Excel Help.
2 Click the Contents tab.
3 From the list of topics that are displayed in the left frame of the window, double-click the topic on which you want help.
4 From the list of subtopics, select the specific topic on which you need help.

Entering Data in a Worksheet

How to Use AutoFill

1 Select the cell whose data you want to use.
2 Place the mouse pointer on the fill handle. The mouse pointer changes to a cross.
3 Drag the mouse over the range of cells in which you want the data series to be displayed. If the data in the cell is a value, hold down the Control key while dragging to increment the values.

Working with Workbooks

How to Create a New Workbook

1 Choose File, New.
2 Select Workbook and click OK.

How to Save a Workbook

1. Click the Save button on the Standard toolbar.
2. Type the name for the workbook in the File Name text box.
3. Click the Save button.

How to Activate the AutoSave Option

1. Choose Tools, Add-Ins.
2. Select the check box next to AutoSave Add-In.
3. Click the OK button.

How to Open a Workbook

1. Choose File, Open.
2. Select the folder or subfolder where your file is stored.
3. Select the file of your choice.
4. Click Open.

How to Close a Workbook

1. Choose File, Close.
2. If the workbook has not yet been saved, click Yes in the Microsoft Excel message box.

Editing Data in a Worksheet

How to Copy Data

1. Select the cell or the range of cells whose contents are to be copied.
2. Click the Copy button on the Standard toolbar.
3. Select the cell where the copied data will be pasted.
4. Click the Paste button on the Standard toolbar.

How to Move Data

1. Select the cell or range of cells to be moved.
2. Click the Copy button on the Standard toolbar.
3. Select the destination cell where the data is to be moved.
4. Click the Paste button on the toolbar.

How to Delete Cell Contents

1. Select the cell or the range of cells whose contents are to be deleted.
2. Right-click the selected cell.
3. Choose Clear Contents from the context-sensitive menu.

Working with Worksheets

How to Insert a Cell in a Worksheet

1. Select a cell in the worksheet.
2. Choose Insert, Cells.
3. Choose an appropriate option in the Insert dialog box.
4. Click OK.

How to Delete a Cell from a Worksheet

1. Select the cell or the range of cells that you want to delete.
2. Choose Edit, Delete.
3. Choose an appropriate option in the Delete dialog box.
4. Click OK.

How to Insert a Row or Column in a Worksheet

1. Select the row or column before which you want to insert a row or column.
2. Choose Insert, Rows or Insert, Columns.

How to Insert a Worksheet in a Workbook

1. Click the tab of the worksheet before which you want to insert a new worksheet.
2. Choose Insert, Worksheet.

How to Rename a Worksheet

1. Double-click the tab of the worksheet whose name you want to change.
2. Type a new name for the worksheet.
3. Press the Enter key on the keyboard.

How to Delete a Worksheet

1. Click the tab of the worksheet that you want to delete.
2. Choose Edit, Delete Sheet.
3. Click OK in the Microsoft Excel message box to confirm the deletion.

Viewing Multiple Workbooks

How to Arrange Multiple Open Workbooks

1. Open the workbooks you need.
2. Choose Window, Arrange.
3. Choose the appropriate option in the Arrange Windows dialog box and click OK.

Preparing and Printing Worksheets

How to Adjust Margins for a Page

1. Choose File, Page Setup.
2. Select the Margins tab.
3. Enter the measurements for the top, bottom, left, and right margins in the respective spin boxes.
4. Click OK.

How to Place Headers and Footers in a Worksheet

1. Choose File, Page Setup.
2. Select the Header/Footer tab.
3. Select an appropriate header from the Header drop-down list.
4. Select an appropriate footer from the Footer drop-down list.
5. Click OK.

How to Print the Worksheet with Gridlines

1. Choose File, Page Setup.
2. Select the Sheet tab.
3. Click the Gridlines checkbox in the Print section.
4. Click OK.

How to Select Multiple Worksheets for Printing

1. Hold down the Ctrl key on the keyboard and click the sheets that you want to print.
2. Choose File, Print.

Using Formulas and Functions

How to Build a Formula Using Cell References

1. Click a blank cell where the result is to be displayed.
2. Begin the formula with an equal sign.
3. Click the cell that contains a value.
4. Enter a mathematical operator.
5. Click another cell that contains a value.
6. Click the Enter button on the Formula bar or press the Enter key on the keyboard.

How to Name a Range of Cells

1. Select the cell or range of cells to be named.
2. Choose Insert, Name, Define.
3. Type a name in the Names in Workbook text box.
4. Click OK.

How to Build a Formula by Using Mouse Clicks

1. Open the workbooks that contain the worksheets you want to use.
2. Click a blank cell where the result is to be displayed.
3. Click the Edit Formula button to the left of the Formula bar.
4. Navigate through the worksheets and include cell references by clicking them.
5. Choose Window and select the workbook from which you want to include cell references.
6. Navigate and include the references of worksheets and cells by clicking them.
7. Click the OK button on the Formula palette when you finish building the formula.

How to Build Formulas Containing Worksheet Functions

1. Click a blank cell where the result is to be displayed.
2. Click the Edit Formula button to the left of the Formula bar.
3. Select the desired function from the Functions drop-down list box.
4. Enter the arguments for the function in the text boxes of the formula palette.
5. Click OK.

Working with Charts

How to Create a Chart

1. Click the Chart Wizard button on the Standard toolbar.
2. Select the type of chart you want to create from the Chart Type list.
3. Click Next.
4. Enter the data range that you want to plot as a chart in the Data Range text box of the Chart Source Data dialog box.
5. Click Next.
6. Select or deselect the standard options provided for the chart type you chose in the Chart Options dialog box.
7. Click Next.
8. Select the location for your chart in the Chart Location dialog box.
9. Click Finish.

Course Wrap-Up

In this course, you learned everything you need to know to start using Excel 2000. You learned that Excel 2000 is a spreadsheet application that helps to record, manage, and analyze data. You learned to identify the interface components of the Excel environment.

You learned about the various ways of getting online help while working with Excel. These included using Office Assistant and also getting help on specific topics when the Office Assistant feature was turned off.

You learned about different kinds of data entries, such as labels, values, and formulas. You also created a worksheet and entered text, numeric values, and repetitive data in the worksheet. You learned to use the AutoComplete and AutoFill features of Excel.

You discovered the significance of saving data. You learned how to save files and to give a different name to the copy of a file. You also learned how to activate Excel's AutoSave feature. You learned how to open and close new and existing workbooks.

You learned about the various editing features available in Excel. You copied and moved data across cells by using Edit menu options and the drag-and-drop method. You also modified and deleted the contents of a cell.

You used tools such as Spell Check and AutoCorrect for proofreading a worksheet.

You edited worksheets by inserting and deleting cells, rows, and columns. You added, deleted, and named the worksheets in a workbook and learned to change worksheet views.

You learned to control the appearance of the printed worksheet. You set the paper size, margins, orientation, header, and footer of the worksheet by using the Page Setup dialog box. You observed that the gridlines in a worksheet could be printed.

You learned to print multiple worksheets of a workbook and a selected area of a worksheet.

You performed mathematical calculations by using formulas and functions available in Excel. You learned to create formulas and learned about relative and absolute cell referencing.

You identified the elements of a typical chart and the different types of charts. You created charts by using Chart Wizard. Finally, you learned to modify a chart by adding or removing data labels, legends, gridlines, and titles.

Related Courses in Series

Excel 2000 Level 2 covers working with objects, charts, maps, multiple workbooks, and pivot tables; using financial and logical functions; auditing workbooks; and validating and analyzing data.

Excel 2000 Level 3 covers working with templates, macros, databases, and shared workbooks; associating other Office applications with Excel; and publishing data on the Web.

Additional Resources

- *Sams Teach Yourself Excel 2000 in 24 Hours* (ISBN: 0-672-31445-2)

For a listing of other resources, visit the Que Learning Systems Web site at quels.com.

Glossary

Absolute Referencing A method of referring to cells in formulas in which cell references need to be constant and should not change relative to their position.

Area chart A chart that depicts the amount of change in values over a period of time. By displaying the sum of the plotted values as an area, an area chart displays the relationship of parts to the whole.

AutoComplete A feature in Excel used to automate the insertion of text if you need to type the same text multiple times.

AutoFill A feature that automatically completes the data series in the adjacent group of cells.

AutoSave A feature that saves work automatically at specified intervals without a prompt from the user.

AutoSum A feature that enables the user to calculate the sum of values in a range of cells.

AVERAGE A statistical function that returns the arithmetic mean of its arguments.

Axis The frame of reference against which values are plotted in a chart.

Axis Labels The labels for the X- and Y-axes are the headings of columns in the worksheet that are represented in the chart.

Bar chart A chart depicting the comparison between the individual items represented in the chart.

Cascade An arrangement in which open workbooks are arranged one above another.

Cell The resulting intersection of a row and column in Excel.

Cell References These identify a cell or a range of cells on a worksheet. They inform Excel where to look for the values or the data to be used in a formula.

Chart toolbar A useful tool containing buttons for creating and modifying a chart.

Clipboard A special memory area where data is stored temporarily before it is copied to another location.

Clipboard toolbar A floating toolbar that appears across the worksheet whenever the user copies or cuts more than one selection during the current Windows session.

Column chart A chart depicting the comparison between more than one category of items. A column chart displays data changes over a period of time or illustrates the comparison among items. To emphasize the variation over time, categories are organized horizontally and values are organized vertically.

COUNT A statistical function that returns the number of cells containing numbers in the specified range of cells.

Data Series A series of related information that appears in consecutive cells.

Data Series in a chart A group of points that represents the plotted values in a chart. Each data series is represented by a different color in a chart.

Data table A grid that contains numeric data used to create a chart; it is added to bar, column, area, and line charts.

DAY A date function that takes a date as an argument and returns the day of the month, which is an integer ranging from 1 to 31.

Drawing toolbar A toolbar that contains drawing tools for use in a worksheet.

Fill handle A small black square in the corner of a selected cell or a range of cells. Drag the fill handle to copy contents to adjacent cells or to fill in a series such as dates.

Floating toolbars The unanchored toolbars that can be dragged and placed wherever convenient.

Formatting toolbar A toolbar that contains tools to format worksheets.

Formula A value that is produced by a sequence of values, cell references, names, functions, or operators entered in a cell. A formula always begins with the = symbol.

Functions Built-in tools in Excel that help to analyze data and information.

Gridlines The lines that extend from the axes across the plot area of a chart. These lines help identify the value of a plotted point.

Headers and Footers The lines of the text that are printed at the top or bottom margins of every page.

Label Represents alphanumeric data in Excel.

Landscape orientation An option that prints the worksheet in such a way that the long edge of the paper is at the top of the page.

Legend The box that identifies the color or pattern representing a data series in a chart.

Line chart A chart that enables you to study the change in values over equal intervals of time.

Margins The distance between your data and the edge of the printed page.

MAX A statistical function that returns the largest value in the specified range of cells.

MIN A statistical function that returns the smallest value in the specified range of cells.

MONTH A date function that takes a date as an argument and returns the month of that date in the form of an integer.

Named Ranges The user-defined names of the cell ranges that are used in a formula instead of cell references.

NOW A date function that returns the current date and time. It takes no arguments.

Office Assistant An animated help tool that provides context-sensitive tips as you work.

Page Break Preview mode An Excel mode that helps you quickly view and adjust the print area and page breaks in a worksheet.

Page breaks The dividers that are used to split your worksheet into two or more pages if the data does not fit into a single page when printed.

Pie chart A type of chart that depicts the proportional size of the elements that constitute the chosen category of data. A pie chart displays only one data series and is useful when you need to draw attention to a significant element.

Picture toolbar The toolbar that is displayed when you are working with a graphic.

Plot Area An area that includes the data series and is surrounded by the axes in a chart.

Portrait orientation An option that prints the worksheet in such a way that the short edge of the paper is at the top of the page.

Print Preview mode A mode that enables you to display the worksheet exactly as it will look when it is printed.

PRODUCT A mathematical function that multiplies the values given as arguments and returns the product.

RANK A statistical function that returns the rank of a number relative to other values in the specified set of values.

Relative Referencing The default method of referring to cells in formulas, in which references to cells are relative to the position of the formula.

ROUND A mathematical function that rounds a number to the specified number of digits.

ScreenTip A short description that appears when the user points to a button on the screen.

Spell Check A feature that checks the possible spelling errors in a worksheet and displays various suggestions to correct those errors.

SQRT A mathematical function that returns the square root of a number.

Standard toolbar A toolbar that contains commands for program functions, such as New, Open, Print, and Close.

SUM A mathematical function that adds the values in a range of cells.

TIME A function that takes hours, minutes, and seconds as arguments and returns a decimal value based on the values passed as arguments.

Titles The text that describes a chart and is automatically placed aligned to an axis or centered at the top of a chart.

Values The numeric data that is typed into a cell.

Workbook The file where you work and store your data. Each workbook can contain many worksheets. Therefore, you can place related information in a single workbook.

Worksheet The primary document in Excel that you use to save and work with data. A worksheet consists of the cells that are organized into columns and rows.

YEAR A date function that takes a date as an argument and returns the year in that date.

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